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Contents

October 31, 2022, Vol. 71, No. 10



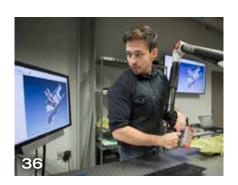
TO THE FIELD

- **10** Army Aviation Branch Chief's Corner By MG Michael C. McCurry II
- **14 AMCOM Commander Update** By MG Thomas W. O'Connor, Jr.
- **Aviation Branch Maintenance Officer Update**By CW5 Patrick O'Neill
- **22 AMCOM Command Sergeant Major Update** By CSM Bradford L. Smith
- **26** Combat Readiness Center Update By LTC Sean O'Connell
- **Reserve Component Aviation Update**By COL Lindsey Halter
- 30 128th Aviation Brigade Update By CW4 Abe Garcia
- 32 CCDC AVMC Tech Talk Dr. Thomas L. Thompson
- **34 Ask the Flight Surgeon** By LTC (Dr.) Emily A. Simmons



SPECIAL FOCUS — Aviation Maintenance/ Sustainment

36 AMCOM Adds Advanced Manufacturing To Its Sustainment Toolbox
By Lisa Hunter





Contents

October 31, 2022, Vol. 71, No. 10



SPECIAL FOCUS - Aviation Support

40 Developing and Delivering Relevant Enabling Capabilities Focused on the Future Fight By COL Burr Miller

MOSA – The Army Aviation Modernization Moon ShotBy Mr. Matt Sipe

SPECIAL FOCUS - National Functional Awards

48 2022 Army Aviation Association of America National Functional Award Winners



FROM THE FIELD

From Concept to Reality: FARA Ecosystem Experimentation at the Tactical EDGE

By LTC Tanner Spry

AAAA Aircraft Survivability Equipment Symposium is Back By CW4 Joe Pisano, U.S. Army Retired



DEPARTMENTS

AAAA NEWS

			Í
	in City		
68			

, , , , , , , , , , , , , , , , , , , ,	
AAAA President's Cockpit	8
AAAA VP Chapter Affairs	62
Chapter News	63
AAAA VP Membership	66
New Members	67
AAAA Family Forum	68
AAAA Legislative Report	70
AAAA Scholarship Foundation	

ARMY AVIATION is the official journal of the Army Aviation Association of America (AAAA). The views expressed in this publication are those of the individual authors, not the Department of Defense or its elements. The content does not necessarily reflect the official U.S. Army position nor the position of the AAAA or the staff of Army Aviation Publications, Inc., (AAPI). Title Reg® in U.S. Patent office. Registration Number 1,533,053. SUBSCRIPTION DATA: ARMY AVIATION (ISSN 0004-248X) is published monthly, except May and September by AAPI, 593 Main Street, Monroe, CT 06468-2806. Tel: (203) 268-2450, FAX: (203) 268-5870, E-Mail: aaaa@quad-a.org. Army Aviation Magazine E-Mail: magazine@quad-a.org. Website: http://www.quad-a.org. Subscription rates for non-AAAA members: \$30, one year; \$58, two years; add \$10 per year for foreign addresses other than military APOs. Single copy price: \$4.00. ADVERTISING: Display and classified advertising rates are listed in SRDS Business Publications, Classification 90. POSTMASTER: Periodicals postage paid at Monroe, CT and other offices. Send address changes to AAPI, 593 Main Street, Monroe, CT 06468-2806.



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On The Cover

PAID ADVERTISEMENT: Connecting the Edge Across All Domains - Collins Aerospace, a unit of Raytheon Technologies Corp., is a leader in technologically advanced and intelligent solutions for the global aerospace and defense industry. Collins has the extensive capabilities, comprehensive portfolio and broad expertise to solve customers' toughest challenges and to meet the demands of a rapidly evolving defense market. Caption provided by the advertiser.

Briefings

Rainey Takes Command of AFC



GEN James E. Rainey was promoted to his present rank and took command of Army Futures Command in Austin, TX, during ceremonies at the LBJ Presidential Library in Austin, Texas, on Oct. 4, 2022. He replaces the unit's first commander, GEN Mike Murray, who retired in December 2021. LTG James Richardson, Murray's deputy and a Master Army Aviator, has served as acting commander since then, and retired with more than 40 years of service in a follow-on ceremony.

No NDSM After 31 Dec



The National Defense Service Medal is going back into retirement on Dec. 31. The award, which all troops serving since

9/11 have been eligible to wear after initial training, won't be awarded for the foreseeable future. "Termination is based on the United States no longer conducting large-scale combat operations in designated geographic locations as a result of the terrorist attacks on the United States that occurred September 11, 2001," Defense Secretary Lloyd Austin wrote in a memo signed Aug. 30. The U.S. withdrawal from Afghanistan and the formal end of combat operations in Iraq, brings to a close the fourth conflict for which troops could earn the NDSM. It was previously activated for five years during the first Gulf War, 13 years for Vietnam and four years for the Korean War.

Defense JSC Holds First Meeting

The inaugural Department of Defense Joint Safety Council was held at the Pentagon



on Aug. 26, 2022. The JSC originates from the National Commission on Military Aviation

6

Safety, chaired by former Army Vice-Chief of Staff, GEN (Ret.) Richard Cody, which recommended to provide a dedicated focus on operational safety challenges, as well as augment existing safety programs by helping "bridge the gap between commercial aviation practices and military aviation realities." Congress endorsed the NCMAS recommendation, authorizing the JSC in the Fiscal Year 2022 National Defense Authorization Act. The council, presently chaired by Air Force Maj. Gen. Jeannie Leavitt, is required to meet at least quarterly, but indications are that they will need to meet much more often, both to hammer out the council's road map and to start working through its goals, once they're laid out.

National Guard Annual Northern Strike/Northern **Agility Exercise**



During two weeks at the end of August, more than 7,400 troops ran through the National Guard's largest and longest bi-annual home defense military exercise. Soldiers, sailors, airmen and Marines combined ground and airpower to beat back a simulated peer threat on the nation's northern border, specifically northern Michigan. Most of the exercise happened at the National All-Domain Warfighting Center that houses both Camp Grayling Joint Maneuver Training Center and Alpena Combat Readiness Center. The first iteration was in 2012 and this year's massive exercise involved participants from more than 60 units, ranging from combat arms to dental technicians to firefighters. British, Canadian and Latvian units also worked in the joint force. Army MG Paul Rogers, Michigan National Guard adjutant general. called the exercise the Guard's "marguee" event and the two weeks the "premier tool for shaping our reserve forces into some of the best warfighters in the world."

CORRECTION:

On page 32 of August/September 2022 issue, the Tech Talk article should reference "...forces and moments..." throughout. We apologize for the error.

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President's Cockpit

Getting Back in the Saddle!

ne AAAA national event down with two more to go before the end of the calendar year.

By all measures the September 11-13, 2022 Aircraft Survivability Equipment Symposium in Lexington, KY was a great success. From the over 400 attendees and the outstanding awardees and families, to the terrific industry partner support in the exhibit hall, we were very fortunate indeed to have such a record-breaking event considering we had not held one since 2019! See page 55 for more details and photos. All that said, I feel I owe the attendees an apology because we just did not have enough seats... a good problem to have, and we vow to do better.

Now our focus shifts to Huntsville, Alabama. As we move to our next event, the AAAA Cribbins Army Aviation Readiness Conference next month, I would like to highlight our vision for this ever evolving event begun by Joe himself along with COL Don Luce and Paul Hendrickson. They started this event in 1973 in St. Louis. Cribbins is really a mini AAAA Annual Summit six months out of phase from the April Summit itself. Although it will always feature acquisition and sustainment elements, it has now matured to include the total aviation enterprise. Led by the Army Aviation Branch Chief and other members of the six pack plus one, the Cribbins Readiness Conference will give you a broad picture of the state of the Branch with the opportunity to visit with key PMs and leaders in the previously mentioned Acquisition and Sustainment communities as well. Capping it all off on Tuesday evening, November 15, 2022 will be our first Annual AAAA Scholarship Foundation, Inc., (AAAASFI) Dinner Concert which will feature outstanding Country recording artist Michael Ray! Don't miss this great opportunity to support the AAAASFI and have a wonderful time doing it. By



MG K. Todd Royar is inducted into the Gold Honorable Order of St. Michael by AAAA National President, MG (Ret.) Tim Crosby in conjunction with the AMCOM change of command on Aug. 12, 2022 at Redstone Arsenal, AL. Army Materiel Command Commanding General, GEN Edward Daly, was on hand to congratulate Royar for his more than 34 years of service to Army Aviation.

the time you read this there may still be a few tickets left but no guarantees.

The December depot-focused Luther G. Jones Forum in Corpus Christi, TX rounds out the calendar year on December 6-7. This forum is always a professionally rewarding and fun event that shines a light on the incredible artisans and sustainment professionals of this national asset. While there, we get the opportunity to recognize the year's outstanding depot artisans through our AAAA awards program.

One last item I would like to mention that has emerged from my various chapter visits around the country. The chapters have raised the issue of rebooting our "Speakers Bureau" that used to exist back in the day. Specifically, the chapters would like to have a list of speakers that would be willing to attend Chapter events and address them on various subjects to include Army Aviation Hall of Famers, Industry representatives, outstanding leaders from among our Army Leadership, AAAA Boards, and the retired community. If you are interested in participating, please contact Laura Arena, our Director of Member

Engagement. Laura will endeavor to get your availability out to the 79 chapters around the world to assist them in their professional program planning and development. As you may know AAAA underwrites almost \$200,000 a year for our chapters to sponsor local events, and this would be a way to share past lessons learned and visions for the future with our over 18,000 members and their families.

I am still on my mission to visit all the chapters before my tenure is over next April. If I have not been to your chapter, believe me, I am headed your way.

Finally, the submission period is open for our National Awards recognizing outstanding Soldiers and units – active, Guard and Reserves. Get your submissions in by January 1st ... information and forms can be found on our website at www.quad-a.org/awards.

As always, send me your thoughts on anything AAAA at *tim.crosby@quad-a.* org. Hope to see you at an upcoming AAAA event soon.

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



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Army Aviation Branch Chief's Corner

Preparing to Sustain Army Aviation into 2030 By MG Michael C. McCurry II



arge-scale combat operations (LSCO) against near-peer adversaries will require units to operate from standoff, and in dispersed, austere operational environments.

Army PFC Anthony Haines, armament electrical and avionics repairer, assigned to Bravo Company, 1-3rd Attack Battalion, 12th Combat Aviation Brigade, conducts a biweekly inspection on the M230 automatic gun of an AH-64D Apache helicopter at Lielvarde Air Base, Latvia, April 3, 2022.

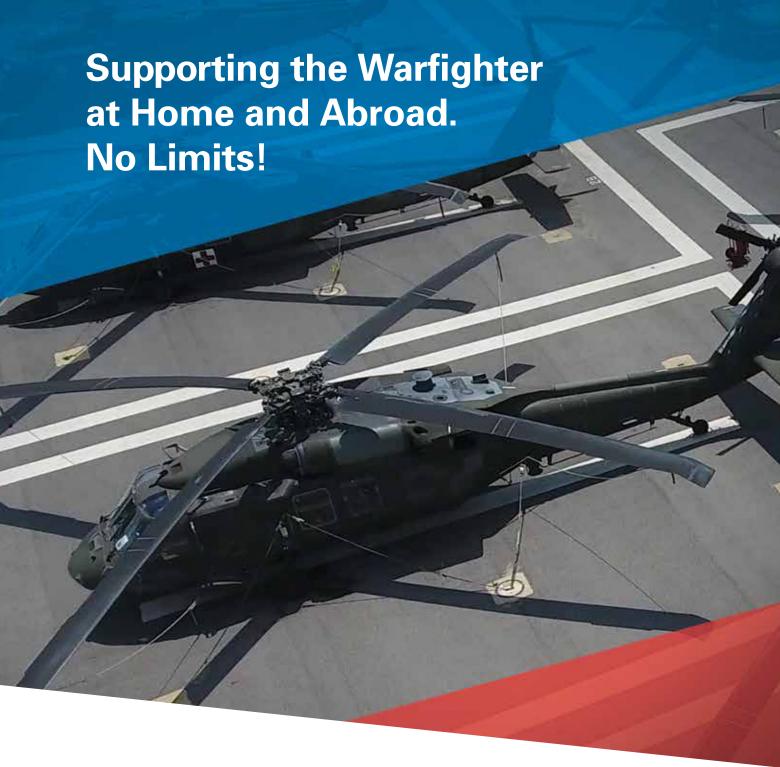
The reliance on contract maintenance for over 20 years of war in Afghanistan and Iraq resulted in atrophy of technical maintenance skills and depth of maintenance experience across our formations. We must restore our ability to sustain at the speeds and precision necessary to fight and win future operations. LSCO will demand high levels of competence and flexibility to rapidly deploy small, well-led maintenance teams across the battlefield enabling Aviation Forces to See-Strike-Move and Extend for the ground maneuver force.

It is time to summon the same vigor, enthusiasm, and innovation we leveraged to learn COIN operations in the early 2000s to drive Army 2030 transformation and prepare Army Aviation operations and maintenance for the future battlefield. The emerging technology of Future Vertical Lift (FVL) with FLRAA, FARA, FTUAS, and ALE has "advanced the ball"

for Army Aviation in materiel. Commensurate sustainment readiness requires new perspectives and approaches to planning, training, and executing Aviation logistics.

The next fight will not begin with combat aviation brigades rotating onto a set of ready, theater provided aircraft in wellstocked clam shells with contractor maintenance. LSCO operational tempo demands Aviation logistics Soldiers become proficient masters of their craft, ready to transform maintenance into a more predictive, mobile, and survivable capability.

We have highly trained, disciplined, and fit aviation maintainers ready and willing to excel by enabling Aviation anywhere and anytime. Reducing our dependence on contract maintenance support provides the training sets and reps for our capable and deserving Soldiers.





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New maintenance tools such as additive manufacturing and emerging attributes like maintenance-free operating periods (MFOP) will increase the division's lethality by maximizing aircraft available to mass forces and rapidly disaggregate them as the aerial arm of combined arms maneuver. In the interim, we can pragmatically apply these principles to derive achievable processes now, such as limited maintenance operating periods (LMOP) along the lines of progressive phase maintenance.

New Force Designs

As we plan and implement new force designs, our priority will be ensuring the right mix of expertise and talent in our maintenance teams with adequate special tools and equipment for dispersed operations. Fully mobile contact teams from all echelons (flight companies, aviation maintenance companies, and aviation support battalions) capable of expeditiously transporting the requisite mix of tools and equipment will be imperative to enable maintenance when and where it is required in the battle space.

Enemy satellite imagery, unmanned reconnaissance systems, long-range artillery, and integrated air defense systems offer little sanctuary for sustainment operations. Challenging our maintainers with training that integrates Warrior Task Training, camouflage and concealment, and tactical movement with MOS-specific training will sharpen maintainers with the tactical skills necessary to survive.

Maintenance Training

USAACE is modernizing maintenance training curriculums by challenging new Soldiers with 72 hours of

field training exercises in conditions they will encounter while conducting maintenance in LSCO. Capitalizing on these opportunities to increase tactical proficiency sharpens our Soldiers by reinforcing resiliency and readiness for future austere conditions. Small maintenance teams dispersed across the battlefield require the right skill set in the right place. As we continue to develop the proficiency and experience of Noncommissioned officers and Enlisted maintainers, we must have information age tools to develop and track aviation maintenance training requirements.

Similar to tracking Aviators' readiness levels, the Aviation Maintenance Training Program (AMTP), TC 3-04.71, allows Leaders to track and develop the skills and task proficiency of maintainers. AMTP helps to identify training needs for specific skills and tasks, enabling commanders to minimize unit readiness gaps.

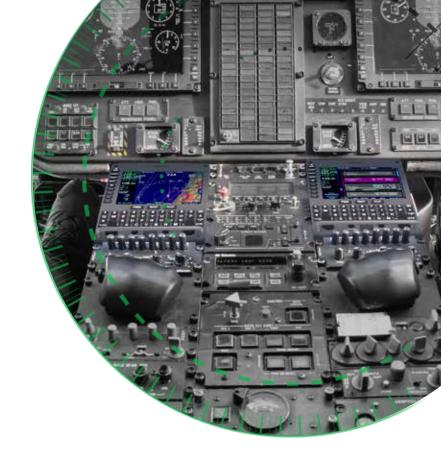
A decisive advantage in LSCO requires novel ideas for Aviation maintenance planning, equipping, training, and talent management. Our officers, warrant officers, noncommissioned officers, and Soldiers are the best in the world. Now we must provide them with the knowledge, skills, and equipment to sustain operations in a new environment. As a branch, we are taking on this time of transition to LSCO with holistic and innovative changes in how we maintain our fleet of manned and unmanned aircraft. Our efforts will lead us to success on any battlefield, anywhere in the world!

Above the Best!

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



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AMCOM Commander Update

AMCOM Continues to Develop Programs for Current and Future Forces

By MG Thomas W. O'Connor Jr.

The Army must meet both current and future operational demands, and AMCOM is helping Army Aviation build the capacity that provides the capability to meet both.

Specifically, AMCOM is involved in every aspect of Aviation sustainment and modernization. We are not alone and have an incredible team of partners, military, industry, and academia. This team is helping us deliver sustainable materiel readiness for the Soldiers of today and set the conditions to support the Soldiers of tomorrow. I want to take this opportunity to share with you some of the tremendous initiatives ongoing at AMCOM that will allow us to make significant strides improving materiel sustainability and readiness, develop our workforce, and prepare the command to support the future force.

First, AMCOM is taking a holistic approach to readiness. Our strategic initiatives focus on our people, processes, critical programs, and our data analytics. All are key factors that support readiness not only for today but will also support readiness for the future force. Together, they are an explosive combination and readiness results are proof of the effectiveness of these initiatives.

The Team

As always, every great organization has great people. Many of you know AMCOM has a stellar workforce. Our team's strategic initiatives focused on people will enable continuous training opportunities that advance our skilled, proficient workforce, ensuring they are fully capable of executing all AMCOM's missions. As the Army procures new capabilities and weapons systems, our processes, facilities and workforce at both the head-quarters and the depot must be ready to meet those requirements.

We continue to invest in the development of our people ensuring we are recruiting and retaining the best people. Our latest initiative is High-Velocity Training (HVT). HVT was specifically developed for the Army's organic industrial base. Through the program, our human resources team is setting up remote and online learning tools that employees can access 24/7. They are also creating lab designs and equipment specifications that will enhance CCAD artisans' skills by offering training at the depot. The program will provide the Corpus Christi Army Depot's workforce an adaptable "eLearning" based simulation and management software.

The program will also help CCAD recruit and train new employees and retain a workforce who is committed, data-literate and agile. We are actively seeking veterans, military spouses and students. Once we on-board employees, we are training the



At Corpus Christi Army Depot, an artisan works on an aircraft. The High Velocity Training Program was developed specifically for the Army's organic industrial base to provide the workforce with adaptable "eLearning" based on simulation and management software.

skills they'll need as members of the CCAD workforce.

Furthermore, AMCOM recognizes that diversity in the work-place increases the organization's efficiency and effectiveness. As a result, we established a diversity board, comprised of employees from every directorate, and a diversity committee, made up of every director. The board and the committee work individually and together to develop and implement programs to attract minority candidates to further diversify our workforce.

Sustainment Capabilities

Everything AMCOM does is to improve combat readiness through the delivery of sustainment capabilities. AMCOM continues to develop and refine our processes and programs to deliver cutting-edge sustainment to enduring and modernizing fleets. Our major efforts include maximizing the depot source of repair, supporting the modernization of our combat platforms and adopting technological innovation to improve supply-chain performance.

CCAD is converting UH-60 L model Black Hawks to UH-60 V models. The Victor model is a digitally reconfigured version with a glass cockpit similar to the UH-60 Mike model. This program is one of the links that helps Army Aviation transition to the Future Vertical Lift programs. The Victor model retains the range,

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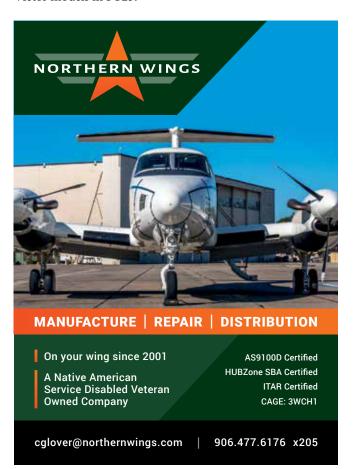


speed, sling-load capacity of the Lima model. The CCAD artisans are adding in an entirely new wiring system and a fully digital cockpit that replaces all the analog controls.

The Victor model's digital interface enables pilots to perform their mission planning outside of the aircraft using a computer equipped with the same programming as the aircraft. The pilots have access to moving maps that allow them to monitor the condition of the aircraft, routes, waypoints, landing zones and return flights. The better pilot interface reduces crew burden and allows pilots to maintain situational awareness outside the aircraft to execute the mission safer, faster and more effectively. The Victor and Mike models are very similar, so the training for both models is also nearly the same, making training easier for everyone.

The conversion provides multiple benefits. First, it adds up to 30 years of use to the airframe. Furthermore, there's a significant cost savings. A UH-60V is approximately 40% cheaper than the purchase price of a new UH-60M. That savings can be used to fund the Army's aviation modernization, i.e., the future vertical lift programs.

Since the Army owns the Victor model technology, there's a cost savings in upgrades. For most Army aircraft, the original equipment manufacturer, or OEM, owns the aircraft software. On those platforms, when software needs to be upgraded, the Army pays the OEM thousands of dollars to upgrade aviation software. The Army owns the Victor model software, an open-architecture concept that future vertical lift programs will employ. Because of this open-architecture feature, the Army can update or change the software instead of paying a contractor. So far, CCAD has produced 25 UH-60 Victor models and are on schedule to complete 23 this year and 31 Victor models in FY23.



Partnerships

AMCOM continues to build relationships beyond the Department of Defense to include with industry and academia. Both are outstanding partners who are helping AMCOM move the sustainment ball down the field. One area is with advanced manufacturing.

Engineers at Wichita State University's National Institute for Aviation Research (NIAR) disassembled a UH-60 Black Hawk aircraft and made a 3D scan, using handheld scanners, of every major structural component. They then merged the 3D scans with the old 2D drawings to create a complete 3D-model file. In July, NIAR started the process of making a digital twin of an AH-64 Apache helicopter. The end result are models the Army can give to vendors or Army artisans to create a part. Scanning the parts and building the 3D-model file is on the first step in this process. In fact, we are already 3D printing some simple parts that are either obsolete or hard to obtain.

In addition to the NIAR-scanned parts, our artisans at Corpus Christi Army Depot are using blue-light scanning and cold spray to make or build up parts. They are also sharing their workspace with robotic counterparts, JARVIS I and JARVIS II.

As you know, many bolt holes on a helicopter were made by hand, so they are not perfectly aligned. JARVIS I scans an existing aircraft part and then transfers the scanned hole placement onto a new, blank part. In short, perfectly making imperfect holes. JARVIS II is a robotic cell that cuts Black Hawk blade inspections and repairs from a three-week process to a one-week process.

Preparing for the Future

As AMCOM continues to improve sustainment and readiness for the current force, we are preparing for the future force, as well. We are capturing all of our advanced manufacturing processes in an AMCOM policy and taking strides to verify and validate the accuracy of aviation enterprise data to document all aviation enterprise strategic and stakeholder requirements. This will help us provide the Army accurate, integrated data sets across the aviation fleets.

Our preparation for the future force includes building infrastructure now that will support the future Aviation efforts. At CCAD, construction is ongoing on a new powertrain facility that will house rotary-wing component rebuild activities. The new facility will support advanced manufacturing, 3D printing, automation and state-of-the-art test cells. These capabilities will support powertrain and engine sustainment efforts throughout the Department of Defense. When completed in FY27, the facility will increase workplace efficiency, capability, flexibility and capacity for CCAD's enduring workload on the T700 and T55 engines. It will also seamlessly integrate work on the Improved Turbine Engine, the T901.

I am proud to be a member of this extremely talented AM-COM team. Every day, I meet another member of the AMCOM team who is dedicated to ensuring readiness for our Soldiers. Continuing our tradition of excellence – taking care of people, ensuring sustainable materiel readiness, and preparing for the future force — is always paramount in our minds and efforts. The entire AMCOM team is committed to one mission: Readiness for America's Soldiers.

MG Thomas W. O'Connor, Jr. is the commanding general of the U.S. Army Aviation and Missile Command at Redstone Arsenal, AL.



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No Pranch Maintenance Officer Update

Save Time and Money By Doing Things By the Book By CW5 Patrick O'Neill



t's hard to believe that it's almost November. It seems like just a few short days ago we were enjoying the beautiful summer weather.

Aviation maintainers assigned to the 12th Aviation Battalion, Fort Belvoir, Virginia, inspect a UH-60 during routine maintenance.

With another Halloween soon to be behind us and looking forward to another holiday season, I reflected on our busy summer. I find that some of my personal endeavors relate to my more recent Army experiences.

If I may... This past spring and summer, I took on a large project at my home. It took me the entirety of the spring, summer, and good portion of this fall to complete. You may ask yourself why this is relevant to Army Aviation. I took on a project that was perhaps too big for me to do alone. It was also a project about which I had a little experience but not enough to be confident in.

Although I watched many YouTube videos and read several articles on how to proceed with my project those sources didn't have step-by-step

instructions or manuals telling me how to do the project. As I got into some of the intricacies of my never-ending endeavor, I learned that professional help or guidance would have been greatly useful. One might say that this is painfully obvious. That experience reminded me that explicit guidance from technical manuals is the way to go.

As I toiled through the hot summer months to complete my project, I thought back on the many years that I have been a maintenance officer. How many times have I spoken to peers and subordinates about using proper manuals for the task at hand? If I had only listened to myself at the beginning of this project, my summer job would've been much easier.

I have traveled across our Army's maintenance facilities over the past

year, I have seen numerous experienced professionals doing their jobs by the book. Unfortunately, I have also seen and continue to see individuals still not following proper maintenance procedures. This past spring and summer, Army Aviation experienced several different situations that were caused by improper maintenance. Some situations were due to lack of knowledge or experience; some were blatant disregard for proper procedures; and some were caused by incorrect procedures written or steps omitted from our technical manuals.

Many millions of dollars were lost or spent to fix these errors. The most egregious of these missteps led to the loss of an aircraft. The silver lining during all of this was that none of our aviators or crew members were severely

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A maintenance specialist with the 96th Aviation Support Battalion "Troubleshooters," 101st Airborne Division (Air Assault), conducts maintenance checks on a UH-60.

hurt. And, thanks to our Army's highly skilled pilots, no lives were lost. The worst part of these incidents was the fact that every single one was avoidable.

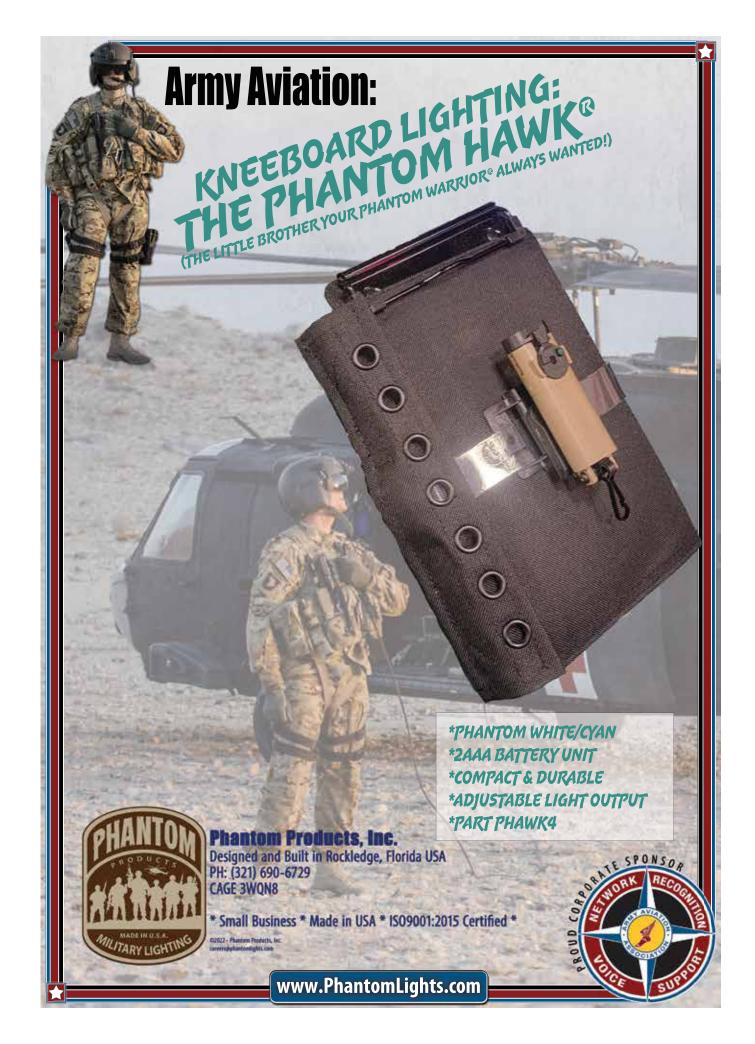
Every few years, all aviation brigades go through an inspection. During these inspections, maintenance procedures and practices are heavily emphasized. Some people feel that these inspections are a waste of time and resources. From what I have learned over the years and now whole heartedly believe is that these inspections are worthwhile and not intrusive. They are great reminders to us all that we need to comply with Army regulations and standards for maintenance each and every day. For these inspections do nothing more than reinforce standards that are already in place.

We all have received well-planned and thought-out training throughout Continued careers. Army education is just the start. We, as professional maintenance officers and noncommissioned officers in charge, need to continually and aggressively pursue training that keeps us up to date with new equipment, policies and procedures. Many of these opportunities are available online and at our Army depots. As leaders, we must also ensure that we pass our knowledge and experience on to our Soldiers through proper support, supervision and mentorship. I can't begin to tell you how important it is that Technical Inspectors and Maintenance Officers are out on the hangar floor helping, training, and observing daily, all while simultaneously enforcing the standards.

Please make no mistake, in our Army we have the best trained and skilled maintenance test pilots, technical inspectors and maintainers of any military in the world, this includes our contractors and Department of the Army Civilians. At the end of the day, we are all human and we make mistakes. We do a job that can be unforgiving and where only perfection is expected. The problem is that none of us are perfect, and it will always take a team of highly trained and skilled individuals to achieve the goal of perfection.

My ask is that we all do the small tasks by the book each and every time we do them. As leaders, we should ensure that our fellow Soldiers and teammates are doing things correctly. I would like to take this opportunity to thank everyone associated with Army Aviation maintenance for always looking out for our pilots and crew members by always putting their safety first.

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





No AMCOM Command Sergeant Major Update

A Year as the AMCOM CSM: At AMCOM, it's all about the workforce supporting the Warfighter By CSM Bradford L. Smith

t is hard to believe that over one year ago I joined the U.S. Army Aviation and Missile Command (AMCOM) team as the Command Sergeant Major.

It is truly exciting to come in each day and collaborate with the AMCOM workforce on the lines of effort and initiatives. These lines of efforts and initiatives start here and will eventually impact the entire Army Aviation enterprise. In short, everything AMCOM does is about people: our workforce, Soldiers and Joint Warfighters.

Whether it is advanced manufacturing, streamlining process at both of our depots, the conversion of the UH-60 Lima to Victor Model Black Hawk or recording a podcast. It is all because of the workforce, the "PEOPLE." The Chief of Staff of the Army, Gen. James McConville and the AMCOM commander, MG Thomas O'Connor, are adamant: Our number one priority is "PEOPLE." I have had the opportunity to travel to some of our locations and had the privilege to meet some of the amazing people who make up our workforce. I can report to you that they all care about one thing: the Warfighter. AMCOM's workforce, its people -

regardless of if they are stationed at Redstone Arsenal, Alabama; Corpus Christi, Texas; Germany; Korea; or any of the many other locations – are committed to supporting the Warfighter.

It is because of our dedicated workforce that AMCOM can move so many lines of efforts and initiatives



SGT Lord Rigonan, 1106th Theater Aviation Sustainment Maintenance Group (TASMG), California Army National Guard, works alongside Corpus Christi Army Depot artisan Michael Salazar during unit training at the depot, June 16, 2022.

forward simultaneously and achieve outstanding results. There are too many to list, so I will concentrate on a few in this article.

First, is *advanced manufacturing*. Across the enterprise, there's a lot of discussion about printing parts in the field. I think this is something that can happen; however, laying out and understanding the process is the most important step, in my opinion. Ms. Andrea Benson is leading the AMCOM

advanced manufacturing initiative. She has coordinated and conducted numerous semi-annual Advance Manufacturing Summits over the past few years with our sister services, industry, and other organizations within the Army Aviation Enterprise. This effort has allowed AMCOM to publish a third version of the AMCOM Manufacturing Policy, dated August 2022. AMCOM's policy aligns with Department of Defense



















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Enlisted Aviation Soldier Spotlight

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



SSG Jalen E. Rhodus Company F, 6th Battalion,

101st Aviation Regiment
Task Force Eagle Assault
101st Combat Aviation Brigade
Fort Campbell, Kentucky

Air Traffic Controller of the Year, 2019 *Sponsored by Raytheon Company*

SG Jalen Rhodus' performance as Foxtrot Company's Phoenix Tower Facility Chief was marked by a relentless pursuit for excellence and superb knowledge of tower control which directly influenced Phoenix Tower's ability to conduct operations without accident or incident in support of Operation Resolute Support Headquarters, Operation Freedom's Sentinel, and Task Force Destiny. During his deployment, he was a key participant in the creation of the Green Zone Aerodrome within the Kabul Base Cluster (KBC). Effectively, this allowed for all six current and future U.S. Army air traffic controllers to receive rating credentials, while enhancing the combat effectiveness of Task Force Destiny. SSG Rhodus ensured the safe, orderly, and expeditious movement of aircraft in support of various aviation missions including MEDEVAC, reconnaissance, sling-load operations, and Distinguished Visitor operations in the KBC with his controllers completing over 73,000 aircraft movements, controlling 18,205 aircraft, and supporting over 92,000 passengers without accident or incident. He is a dedicated, passionate leader, and subject matter expert, whose innovative and strategic approach to solving complex problems for Air Traffic Control operations procedures is held in high regard within the ATC community.

guidance and input from previously mentioned partners to ensure it covers airworthiness in our advanced manufacturing efforts.

Another incredible AMCOM asset is our organic industrial base, our depots. If you have not had the opportunity to visit either of our depots, Corpus Christi Army Depot (CCAD) in Texas, or Letterkenny Army Depot (LEAD) in Chambersburg, Pennsylvania, to see the great work the AMCOM team is doing, then you need to schedule a trip. LEAD is known for its missile systems maintenance, but they are also resetting the Army's Aviation Ground Support Equipment and Auxiliary Ground Power Unit or AGPU, and the Generic Aircraft Nitrogen Generators, or GANG.

One program our depots offer is a well-kept secret. In fact, it's too much of a well-kept secret: *They will train*

your Aviation Soldiers. If you have the opportunity, I strongly recommend sending aviation maintainers to LEAD where they can work side-by-side with our artisans on some of these systems. The training they receive will enable them to better maintain your aviation ground support equipment.

Another training opportunity awaits your Soldiers at CCAD where they can walk the UH-60 Black Hawk Lima to Victor production line to see how our artisans are transforming UH-60 Lima models from an analog cockpit to the UH-60 Victor model with a digital, glass cockpit, similar to the UH-60 Mike model. The Victor model retains the range, speed, sling-load capacity of the Lima model, but with a lot of needed improvements. These aircraft will be the link that helps Army Aviation segue to the Future Vertical Lift program.

You and your Soldiers will see,

firsthand, how CCAD is modernizing UH-60 blade repair using the JARVIS II, or the Joint Autonomous Repair Verification and Inspection System II. JARVIS II is a robotic cell that modernizes multiple inspection and repair processes on the UH-60A, L and V main rotor blades, cutting the time for blade inspections and repairs from three weeks each to one week each. While at the depot, your Soldiers can train with the CCAD artisans on engine and transmission maintenance or just about any other facet of aviation maintenance. If you're interested in sending your Soldiers to one of the AMCOM depots for training, contact the respective depot sergeant major to coordinate.

With all the lines of efforts and initiatives at AMCOM, back in February, I asked MG Todd Royar, if he thought producing podcasts about what AMCOM is and what we are doing would be helpful to the aviation enterprise. I am proud to report that we have completed seven podcasts, thus far. For each podcast, we brought in subject matter experts to discuss various topics. We really tried to keep each podcast under 10 minutes; however, some of these topics can get interesting with questions and conversation back and forth. We have covered several topics, including what is a Logistic Assistance Representative AMCOM's advanced manufacturing efforts, UH-60 Lima to Victor production line and Product Quality Deficiency Report (PQDR). We have a list of topics we still need to cover. I am looking forward to learning from the next subject matter expert and sharing that information with you. You can check out the AMCOM podcast "What Can AMCOM Do for You" at https://www.amcom.army.mil/news.

These lines of effort and initiatives are just a few of the many examples of the amazing AMCOM workforce who are supporting the warfighter every day. I am proud to be a member of the AMCOM team and to be their Command Sergeant Major and I am looking forward to what we together as a team will continue to do to support the Warfighter.

CSM Bradford L. Smith is the command sergeant major of the Aviation and Missile Command at Redstone Arsenal, AL.





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Combat Readiness Center Update

Set Up For Success By LTC Sean O'Connell



rmy Aviation has virtually eliminated the "fourthquarter spike" the past two years and kept Class A mishap rates at less than 1 per 100,000 flight hours the past five years, according to U.S. Army Combat Readiness Center (USACRC) data.

The key to this success is operational risk management and leader engagement at all levels. Currently, the Army is transitioning its training focus to largescale combat operations. Past experiences tell us that transitions are where leaders must manage risk the most. To assist in loss prevention efforts, the US-ACRC identified some leading indicators that accounted for 88% of Class C and below flight/flight-related mishaps. Out of 826 events between FY16 and FY22, the leading mishap category was object strikes/controlled flight into terrain (CFIT) and hard landings, primarily due to power management issues. More than 120 of these Class C events were dangerously close to being a Class A mishap. Combating this leading indicator will require renewed focus on terrain flight mission planning.

In counterinsurgency operations, the Army transitioned to higher flight profiles to prioritize small-arms fire risk mitigation over air defense system threats. Now that our threat profile has

changed, we are once again flying closer to the earth's surface. Terrain flight presents numerous hazards, including wires, trees, weather limiting line of sight and, of course, the ground. These hazards may seem obvious, but CFIT continues to be a factor in Army flight mishaps. If not properly trained and prepared to enter terrain flight, mishaps can occur, as your world shrinks from an abundance of visibility and maneuver space to inches and seconds from the surrounding hazards. This is especially true at night and in other degraded visual environments.

To compensate for not having the recovery time from mistakes afforded by altitude, there are three margins we can increase — power, airspeed, and terrain flight mission planning. First, power can cover up a multitude of mistakes if a conscious effort is made to conserve it. With excess power, you can stop faster, turn steeper and climb more quickly over obstacles — all of which are advantages in the near-earth environment of terrain flight. The second margin is

A Hawaii Army National Guard (HIARNG) CH-47 Chinook from Company B, 2nd Battalion, 211th Aviation Regiment, maneuvers over hilly terrain on Schofield Barracks, Hawaii, April 2, 2022.

airspeed. The closer you operate to the earth, the slower you must fly to avoid obstacles. This may seem obvious, but we must constantly fight the negative habit transfer caused by the high-altitude/high-energy flying of the past. The third margin is to increase preparation through terrain flight mission planning. Mission planning at terrain flight takes more than following a needle on a GPS or mindlessly following a course line on a multifunctional display. Good terrain flight mission planning takes careful consideration to avoid hazards presented to the pilot at lower altitudes. It is no longer a given that a course line will follow a straight line on a map. Planning landmarks for terrain association becomes more important than ever.

Remember, avoiding terrain flight is not the answer. Consistently practicing terrain flight to develop proficiency sets us up for success and keeps Army Aviation's Class A mishaps low.

Readiness Through Safety!

LTC Sean O'Connell is a member of the Aviation Division, Directorate of Analysis and Prevention, U.S. Army Combat Readiness Center at Fort Rucker, AL.



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Reserve Components Aviation Update

Mountain Medic 22 Provides Challenging Training By COL Lindsey Halter

The Army Reserve
Aviation Command
(ARAC) recently
completed the second
iteration of its Mountain
Medic exercise.

The Army Reserve Aviation Command (ARAC) recently completed the second iteration of its Mountain Medic exercise. This exercise focused on MEDEVAC capability and took place at Fort Carson, Colorado. The first Mountain Medic took place in 2020 to prepare G/7-158 GSAB, a Reserve MEDEVAC unit, for deployment in support of Operation Freedom's Sentinel. The Reserve medical exercise Global Medic was cancelled that year due to the COVID-19 pandemic. With no other training opportunity, the ARAC, along with a non-deploying sister MEDEVAC company, developed a training event to prepare the unit for deployment. The first Mountain Medic took place over 10 days and exercised two Forward Support Medical Platoons (FSMPs) as well as one Area Support Medical Platoon. The crews conducted 50 nine-line scenarios with 30 point of injury (POI) sites. Mock patients with trauma moulage kits were utilized to provide realism for the flight medics. This first Mountain Medic validated the concept and demonstrated the value of this training, laying the foundation for the success of Mountain Medic 22.

One focus of the exercise is Total Force interoperability. During Mountain Medic 22, Army Reserve MEDEVAC crews interacted with Army units from active duty and Special Forces, along with active duty and Reserve Air Force, Air National Guard, and even Space Force personnel. A total of 84 personnel from six different organizations helped with the training prior to the exercise and more than 260 personnel from ten



MEDEVAC training at Fort Carson, CO during Mountain Medic 22.

separate organizations participated in the training. The ARAC had aircraft from four units involved. This support and partnership across many organizations is a key element in making Mountain Medic realistic, challenging, and successful.

Mountain Medic provided a unique opportunity for crews to work together as a team in scenarios not available during regular continuation training. The training started with each unit giving a capability brief. Other preparations included local area orientations and static load training. Aircrews received training on high-altitude operations and power management, skills that will certainly carry forward throughout their flying career. The main portion of the exercise gave medical personnel the opportunity to get hands-on training with cadavers and role-players with moulage, as well as patient hand-offs with multiple levels of medical role treatment teams. In particular, the cadavers gave medical personnel a chance to practice skills that they can't perform on live-role players or even highfidelity simulators. Aircrews got experience flying in high altitude and in a contested environment as Mountain Medic also included opposing forces (OPFOR).

This exercise is a great example of what LTG Jody Daniels, the Chief of Army Reserve and Commanding General of U.S. Army Reserve Command, addresses in her white paper, "Changing Culture: Moving from Metrics to Readiness." LTG Daniels wants Reserve units to get away from metrics focused leadership and get back to what matters: "recruiting, developing, and retaining cohesive teams and units that are highly trained, disciplined, and fit to accomplish their wartime mission."

As the military transitions to large-scale combat operations, Mountain Medic will have to adapt. The exercise did incorporate simulated GPS degradation, but this will need to be continued and expanded. Adding armed gunship escorts to the scenario could further replicate a contested battlefield environment and reinforce anticipated mixed airframe operations. Additionally, MEDEVAC crews will need to practice more mass-casualty events. Mountain Medic has done an excellent job developing the joint concept as it already incorporates Army, Air Force, and Space Force.

Using a Total Force approach, Mountain Medic 22 tested and developed both medical personnel and aircrews. Planning is already underway for Mountain Medic 23.

Army Reserve Aviation – Rise Above! Ready now! Shaping tomorrow!

COL Lindsey Halter is the acting commander of the Army Reserve Aviation Command at Fort Knox, KY.



WE'VE STOOD WHERE YOU STAND



For 21 years and 7 months, Bruce Melendez proudly served in the U.S. Army in various roles including CH47 Mechanic, CH47 Flight Engineer, CH47 Technical Inspector, CH47 Test Pilot Course Instructor, Squad Leader and Platoon Sergeant.

Today, Bruce is our Flight Test Lead; a role for which his time in the service prepared him well. His service to our country continues to be his life work as he contributes his knowledge as a civilian.

He knows what you demand - he's stood where you stand.

Bruce Melendez U.S. Army 1986-2007



128th Aviation Brigade Update

151As Training for Army Aviation Expeditionary Operations By CW4 Abe Garcia

The phrase Large Scale Combat Operations (LSCO) is becoming engrained in every aspect of our training environment.

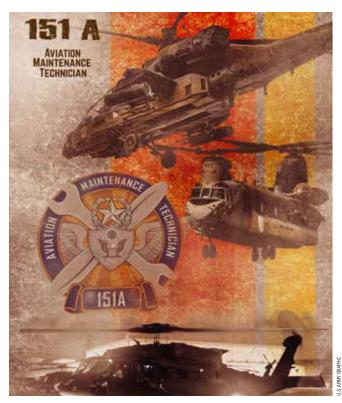
Whether at the National Training Center (NTC) or in a classroom at Joint Base Langley-Eustis, our Aviation Maintenance Technicians (AMT) have heard this phrase more times than they can recall. The phrase LSCO is not intended to be another catchy acronym in the back of our mind, it's intended to change our culture on how we sustain Army Aviation in the future. Conceptually, it's easy to understand the future of Army Aviation, the challenge is executing the training and changing the culture today for tomorrow's mission.

Step 1: Train the Trainers

The Warrant Officer Training Division (WOTD) understands this monumental challenge and has taken steps to prepare our AMTs to manage Aviation maintenance and logistics in LSCO. This transition begins with educating our Training Developers and Instructors on the Aviation Branch's core capabilities of sustaining and maintaining Aviation operations in austere environments. The challenge here is refocusing senior Aviation Warrant Officers that spent 20 years in counterinsurgency deployments managing large stocks of parts and equipment to only the necessities. This transformation largely occurred thanks to many professional development sessions from the Aviation Branch and 128th Aviation Brigade (AB) leadership sharing the vision to influence change across the branch. With the training team refocused on expeditionary operations, WOTD developed a strategy to train and influence the current and future Aviation maintenance and logistics managers.

Step 2: Develop the Training

This strategy begins with developing the Individual Critical Task List (ICTL) as the training requirements. The 128th AB hosted a Critical Task Site Selection Board (CTSSB) last year to identify new ICTLs that will produce new training requirements for the revised 151A Warrant Officer Basic Course (WOBC). During the CTSSB, the training team educated and shaped the participants to vote on tasks fostering sustainment of expeditionary Aviation operations. Earlier this year, WOTD completed the task analysis for the new 151A ICTLs which codified the expeditionary sustainment training requirements. The training team is currently rewriting the entire WOBC course with LSCO as the backdrop of the content with an anticipated implementation date of Jan 2025. The 128th AB will initiate the same process for the 151A Warrant Officer Advanced Course (WOAC) starting May



2023 with an anticipated implementation date of Sep 2025. Additionally, WOTD is working with the Aviation Branch on 151A Warrant Officer Intermediate Level Education (WOILE) requirements, restructuring the 151A Career Path, and revising the 151A Individual Training Plan to better position the talents of 151As in supporting Army Aviation.

Step 3: Train

The strategy ends with training the force. Implementing the new 151A WOBC/WOAC will not occur until 2025, so there is a need to inject training into the force now. WOTD has begun hosting virtual town halls via MS Teams to educate every 151A in all three COMPOs on various components of expeditionary Aviation sustainment. Additionally, these virtual town halls enable users in the field to share changes in the institution as they occur, allowing us to make immediate course changes to help keep pace. Finally, WOTD has created a training repository on MS Teams for users in the field to reference various aspects of expeditionary maintenance management. As Army Aviation continues to evolve, 151As are agile professionals prepared to manage or advise aspects of sustainment.

"Born Under Fire!"

30

CW4 Abe Garcia is the director of the Warrant Officer Training Division, 1-210th Aviation Regiment, 128th Aviation Brigade, Joint Base Langley-Eustis, VA.

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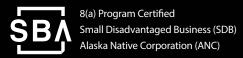
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Autorotation: Part 1 - Entry and Steady Descent

Dr. Thomas L. Thompson

odern rotorcraft engines are very reliable, however in the unlikely event that a total loss of engine power occurs in flight, a safe autorotative landing should be possible given sufficient altitude, a suitable landing site and timely flight control inputs.

We'll break our discussion of autorotation into two parts. This article (Part 1) will discuss the importance of recognizing a total loss of power quickly, reducing blade pitch, stabilizing rotor speed, and establishing a steady rate of descent. We'll also review some of the basic physical principles of autorotative flight. In our next article (Part 2), we'll discuss the final phase of the autorotation maneuver, which involves using the rotational energy of the rotor system to arrest the kinetic energy of the aircraft and ensure a safe landing.

Rotorcraft engines provide shaft power needed to overcome the profile drag of the spinning rotor blades and to induce airflow through the rotor disk to generate lift. When engine power is lost, the rotor speed and rotor thrust decrease, and the aircraft begins to descend. The pilot must reduce the collective pitch of the blades quickly to stabilize the rotor speed (some modern rotorcraft control systems detect a loss of engine power and automatically reduce collective pitch). As the aircraft descent rate increases, the upward flow of air through the rotor provides the energy needed to keep the rotor spinning without power from the engines (rotorcraft are designed with a freewheeling clutch that disengages the rotor from the failed engines and allows the rotor to spin freely).

The physics of autorotation can be understood by comparing force and velocity diagrams at a blade element in powered flight with the same blade element in autorotation (Figure 1). In both cases, the blade lift (perpendicular to relative wind) and the blade drag (parallel to relative wind) are a function of the blade angle of attack (the angle at which the airfoil section "bites" the air), which is the difference between the blade pitch angle and the angle of the relative wind. In powered flight, the direction of the relative wind is downward through the rotor, which tilts the lift vector aft, resulting in an "induced drag" that opposes the rotational motion of the blades. In autorotation, the net flow of air is upward through the rotor, which tilts the lift vector forward, resulting in a "driving force" that helps counteract the drag of the blades. The driving forces near the tips of the blades may not be sufficient to overcome the high drag forces in that region, particularly if autorotation is entered at a relatively high value of airspeed, where more power is

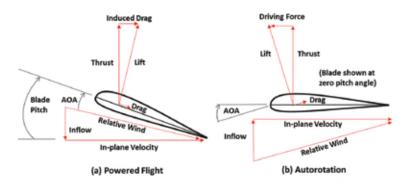


Figure 1. – Rotor Blade Elements

required to drive the rotor. In that case, the aircraft will trim at a higher descent velocity, where the driving forces at inboard sections of the blades provide the balance of the torque need to counteract the high drag near the blade tip (this assumes that the inboard blade sections are not stalled, which will occur if the rotor speed is allowed to decrease below a critical level).

Although pilots don't have time to ponder blade-element diagrams when dealing with an emergency, they learn through flight and simulator training how to recognize quickly (from aural cues and cockpit warnings) when engine power is lost, and then how to enter autorotation, control rotor speed and establish a steady rate of descent. In training and testing (when pilots know a simulated loss of power is imminent), pilots are often asked to wait one or two seconds before reducing collective pitch so that the resulting rotor speed decay is equivalent to what it would be in a real emergency. Simulator training can also be used to demonstrate the consequences of waiting too long to reduce collective pitch following a loss of power. In those cases, rotor speed may decrease below 80%, where blade flapping typically becomes excessive (risking blade contact with the tail boom or nose of the aircraft) and the aircraft is more difficult to control.

Finally, after arresting rotor speed decay, smaller changes in collective pitch are applied to maintain rotor speed to within a range recommended by the Operator's Manual (typically within plus or minus 5% of the normal operating rpm). The cyclic controls are also adjusted to trim the aircraft at the airspeed for minimum rotor power required (typically 70-80 knots), where the steady rate of descent is lowest. As we will discuss next time (Part 2), a low steady rate of descent facilitates the task of timing the final flare maneuver and landing within recommended limits for aircraft attitudes, vertical (descent) velocity and airspeed.

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

Hypothyroidism

By LTC (Dr.) Emily A. Simmons

My doctor just told me that my thyroid is "low" and wants me to start medication. What does that mean for my Aviation career?

FS: Hypothyroidism refers to a condition where the thyroid gland is underactive, meaning that it produces too little thyroid hormone. It is a common condition, occurring in approximately 5% of the population. It is several times more common in women than in men and increases with age but is not uncommon in young and middle-aged adults. In the United States, the most common cause is an autoimmune condition, where the body produces antibodies that attack the thyroid gland. As a result, it is unable to produce an adequate amount of thyroid hormone. Other causes include inflam-

matory conditions, surgical removal of the thyroid, congenital hypothyroidism (something you are born with), radiation treatment, lack of iodine in the diet, or brain conditions where the signal telling the thyroid to produce its hormone is disrupted.

How does hypothyroidism affect the body?

The thyroid can be thought of as one of the metabolic control centers of the body. Symptoms of hypothyroidism are often vague and non-specific, making them difficult to notice as they typically develop slowly over time. Symptoms can include fatigue, weight gain, cold intolerance, skin and hair changes, constipation, slow heart rate, abnormal blood pressure, elevated cholesterol, slowed thinking, depression, and swelling. Severe cases can lead to abnormal heart rhythms, decreased heart pumping function (congestive heart failure), sleep apnea, and ultimately unconsciousness.

How is hypothyroidism diagnosed and treated?

Hypothyroidism is diagnosed by blood tests. Sometimes your doctor might order imaging studies, especially if they can feel nodules, or bumps, in the thyroid. The most common treatment is a synthetic thyroid hormone replacement medication, known as levothyroxine. Your doctor should titrate your dose based on periodic lab tests, especially when first starting the medication. Your dose may change with fluctuations in weight, the development of other medical conditions, or age, and the absorp-



tion of thyroid medication is sensitive to factors such as the timing of taking it and taking it on an empty stomach. It can take a few weeks to months for labs to return to normal, depending on the duration and severity of hypothyroidism before diagnosis. Although there are other types of treatment available, many of them are not well regulated and they are not recommended for use especially in an Aviation setting. Thyroid function doesn't typically return to normal in most types of hypothyroidism, but symptoms can be kept under good control with adherence to the medication regimen.

What does all of this mean from an aeromedical perspective?

The bad news: hypothyroidism is a disqualifying condition. The good news: waivers are readily granted once you start treatment and your condition is stable. The fact that symptoms from hypothyroidism tend to develop gradually in most cases is both reassuring and concerning when considering aeromedical risk. It is reassuring because there is a very low likelihood of sudden incapacitation. However, because the symptoms develop insidiously many people don't

realize how bad they have been feeling until after they start treatment and begin to feel better. Subtle incapacitation from symptoms such as fatigue, depression, and slowed decision making and reaction time is a legitimate risk with untreated or undertreated hypothyroidism.

The aeromedical policy letter (APL) governing hypothyroidism was updated in December 2021. For an initial waiver or exception to policy, the APL requires confirmation of the diagnosis, consultation with a physician (either a primary care doctor or an endocrinologist, depending on the type of hypothyroidism and the level of complexity), and labs demonstrating that treatment has resulted in normalization of thyroid hormone levels. Temporary clearance while waiting for a waiver to be submitted and approved is authorized as long as your symptoms are under control and you don't have any medication side effects. Once a waiver is approved, the only annual waiver requirement is to have labs showing that thyroid hormone levels have remained in the normal range. If your thyroid labs are mildly abnormal at your annual physical, your waiver may still be continued provided that your flight surgeon validates that you aren't having any symptoms. However, your medication dose or the way you take the medication should be adjusted to get you back into the normal range.

In summary, hypothyroidism is a common condition resulting from an underactive thyroid gland. While it is a disqualifying condition for Army Aviation, it is readily treatable and usually amenable to waiver approval. Symptoms should be monitored carefully due to the potential for subtle incapacitation, especially around the time of diagnosis or with any changes to your medication regimen.

Fly Safe!

Questions?

If you have a question you would like addressed, email it to *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.

LTC (Dr.) Emily A. Simmons is assigned to the U.S. Army Aviation Center of Excellence at Fort Rucker, AL.



AMCOM Adds Advanced Manufacturing To Its Sustainment Toolbox By Lisa Hunter



he U.S. Army Aviation and Missile Command has added a few new tools to its sustainment toolbox that are already improving Army Aviation readiness rates.

Partnering with academia and industry, AMCOM has invested significant resources into improved readiness and modernizing Army aircraft using advanced manufacturing. Advanced manufacturing is used to address sustainment issues ranging from obsolete parts to drilling custom holes in an aircraft fuselage.

Advanced manufacturing is cuttingedge, innovative technology of which additive and subtractive manufacturing are



subsets. Additive manufacturing is the ability to create three-dimensional objects by adding layer after layer to build a part or tool. Subtractive manufacturing is similar to sculpting in that the machinist starts with a larger block of metal, for example, and machines it down to the desired shape. Advanced manufacturing, or AM, improves readiness by allowing maintainers to print at the point of need when you can't get something through the traditional supply chain. Furthermore, using AM, maintainers are able to make tools, as well, limiting the labor needed to make a repair.

AMCOM employs several additive manufacturing initiatives to improve readiness. The initiatives include bluelight scanning, cold spray and computer-aided design (CAD) software and 3D object scanners used to 3D print structural parts and tools.

Cold spray is an additive manufacturing technology that AMCOM is using to repair aluminum and steel parts. AMCOM is using cold-spray technology for non-structural repairs, such as corrosion and surface defects. Cold spray creates a mechanical bond.

At Wichita State University, National Institute for Aviation Research (NIAR) technicians scanned more than 5,000 individual UH-60 Black Hawk parts, making 3D scans of each part. The parts can then be 3D printed at the point of need.

Modeling Parts

Blue-light scanning is a high-resolution, structured scanning technique. Using a projector, a camera and a lens to collect various data points, artisans at AMCOM's Corpus Christi Army Depot are able to perform complex material inspections, gather measurements and make templates. The artisans use bluelight scanning to print 3D models of aviation parts. Those models can be used for training and finding ways to mitigate cracks in the part.

Structural repairs

Another technique AMCOM is using is *cold spray*. Cold spray is an additive manufacturing technology that AMCOM is using to repair parts. Unlike other additive manufacturing technologies that are used to make parts, cold spray is used to repair many different materials, including aluminum and steel.





The JARVIS II, or the Joint Autonomous Repair Verification and Inspection System II, is a robotic cell that modernizes multiple inspection and repair processes on the UH-60A, L and V main rotor blades and cuts the time for a blade inspection and repair from three weeks to one week.

Cold spray works by taking a powdered material and propelling it with a gas at temperatures below the material's melting point and at 1000 psi. When the powder hits the substrate of the repair part, it mechanically bonds to the part.

Cold spray offers a unique repair benefit because of the lower operating temperature used in the process. AMCOM is using cold-spray technology for non-structural repairs, such as corrosion and surface defects. Cold spray creates a mechanical bond. For surface repairs, the artisan builds the metal up on the surface for a strong repair.

Making Obsolete Parts

The UH-60 Black Hawk is the Army Aviation workhorse, but it's been around for more than 40 years. Finding repair parts is not always easy. Some are obsolete or hard to get, requiring months and sometimes years to replicate a part. In some cases, the design files are unavailable, and the part producer would have to reverse engineer the part to make a model or mold in order to make a replacement part.

In 2021, Corpus Christi Army Depot (CCAD) shipped a UH-60L Black Hawk helicopter to Wichita State University, the home of the National Institute for Aviation Research (NIAR). NIAR's engineers disassembled the entire aircraft and made a 3D scan, using handheld scanners, of all of the major structural components. They then merged the 3D scans with the old 2D drawings to create a complete 3D-model file. Over the course of more than a year, the NIAR team scanned roughly 5,000 individual parts, making a digital twin of the Black Hawk.

In July, NIAR started the process of making a digital twin of an AH-64 Apache helicopter. The end results are models the Army can give to vendors or Army artisans to create a part. Scanning the parts and building the 3D-model file is on the first step.

Once each part is scanned and the 3-D model file is created, each part must then be qualified to ensure airworthiness. Every metal and polymer are different. The AM part may look the same and fit the same but may not perform the same. To see how each will react, each part is put through airworthiness tests/review. For simple parts, that review may only take 30 days. For more complex parts, the review could take five to six years.

Advanced manufacturing improves readiness. Rather than

waiting for the slow-moving supply chain or for a vendor who can manufacture the part, the unit can print the needed part – and maybe even the tool needed to make the repair – at the point of need. In the near future, the 3D scan of low-criticality parts will be uploaded into a library. The Soldier will download the file and print the part at their location or load the file into a five-axis Computer Numeric Control Mill to manufacture the part.

Robotics

At CCAD, artisans are getting to know their new coworkers, JARVIS and JARVIS II. The JARVIS II, or the Joint Autonomous Repair Verification and Inspection System II, is a robotic cell that modernizes multiple inspection and repair processes on the UH-60A, L and V main rotor blades. It replaces the painstakingly slow hands-on process formerly performed by artisans. JARVIS II detects damage, decreases the cycle time on blade repair preparation, repairs the blade's honeycomb core accurately and with repeatability, and provides increased precision and timing on blade inspections. Using the JARVIS II, the blade inspection and repair that used to take three weeks when done by hand, now takes less than a week.

AMCOM artisans are also employing computer numerical control (CNC) machines for subtractive manufacturing. At CCAD, they are using the JARVIS I, a deployable robotic cell to perfectly drill imperfect holes. JARVIS I inspects and scans an existing aircraft structural part. The scanned alignment of existing bolt holes in the structure is then transferred onto a new "blank" part. Many Army aircraft were assembled by hand, so in many cases the holes were drilled individually, lacking any consistency. This process increases accuracy and repeatability for the hole alignment and reduces the repair turnaround time.

To ensure Soldier safety and the highest levels of quality, AMCOM developed a process to trace and document all advanced manufactured parts into its systems so that any AM part can be traced back to its manufacturing location, the raw materials used, work instructions and other key processes and manufacturing aspects readily identified. This information has been added to AMCOM's Advanced Manufacturing Policy 070-062, developed by the AMCOM Advanced Manufacturing/Modernization Branch along with the Systems Readiness Directorate, Aviation and Missile Center. The policy continues to evolve and is now in its fourth iteration.

Lastly comes the creation of the AMCOM Data Analytics Center (ADAC), the new 'gatekeeper' of all things data-based. ADAC is developing a strategy for the governance, management and enabling capabilities of data. The ADAC team will do that by collecting, analyzing and turning relevant data into viable information that can be used to make informed decisions. They will develop and maintain a Consolidated Management and Analytics Strategy – nested with Army Materiel Command, the Army and the Department of Defense. The intent is to provide real-time data at the right time to the right person.

Through investment in innovation, a trained workforce armed with blue-light scanning, cold spray, digital twins, and robotic repair we're evolving dated processes to ultimately reduce operations and sustainment cost. This will enable us to be more competitive and increase readiness for AMCOM's customers: the Warfighters at our camps, posts and stations.

Lisa Hunter is the Public and Congressional Affairs director for the U.S. Army Aviation and Missile Command at Redstone Arsenal, AL.



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Developing and Delivering Relevant Enabling Capabilities Focused on the Future Fight By COL Burr Miller



he Army continues to evolve to meet emerging nearpeer threats in Large Scale Combat Operations. PEO Aviation remains focused on modernizing, equipping, and sustaining Army Aviation to successfully conduct Multi-Domain Operations (MDO) as part of the integrated joint force while cultivating equipped, capable, and interoperable allies and partners. In support of this, the Aviation Mission Systems and Architecture Project Management Office (PM AMSA) remains dedicated to supporting Army Aviation's enduring capabilities focused on the design, development, and delivery of leading-edge, modular, open-system technologies, delivering enabling capabilities across the enterprise with respect to mission systems processing and architecture; communications and mission command; navigation and air traffic services; and ground support equipment. In so doing, PM AMSA enables decisive multi-domain operational capabilities necessary to compete and win on the battlefields of today and tomorrow.

Mission System Processing and Architecture

The Aviation Architecture and Environment Exploitation Product Office (PdM A2E2) continues its work to produce, field, and sustain the current Integrated Data Modem while simultaneously developing the future "digital backbone" via the Aviation Mission Common Server (AMCS). AMCS will provide an open architecture coupled with increased mission system computing/ processing capabilities that will enable hosting of third-party applications including open systems interfaces, radio control software, and degraded visual environment (DVE).

PdM A2E2 continues to provide contractor logistics services support for deployed aircraft equipped with the DVE System.

DVE enables enhanced situational awareness for air crews operating in inclement weather and will increase their ability to successfully execute medical evacuation missions. Ongoing support includes an in-country field service representative, spare components, a forward repair facility, and reach back to the system's original equipment manufacturer in support of the ongoing operational assessment.

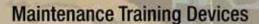
Communications and Mission Command

The Aerial Communications and Mission Command Product Office (PdM ACMC) continues to migrate Aviation Mission Planning System and Tactical Airspace Integration System capabilities into the Integrated Mission Planning and Airspace Control Tools (IMPACT). IMPACT is a software-centric capability enabling convergence within the common operating environment to meet evolving mission planning and airspace control operational needs. During the Army's recent Experimental Demonstration Gateway Exercise in April-May of this year, IMPACT facilitated the 82nd Airborne Division's ability to share and update mission planning and airspace data between the command post, mounted and mobile-handheld computing environments in support of operations.

The Air Ground Networking Radio (AGNR) team continued its partnership with PdM A2E2's AMCS team, focusing on the technical and programmatic alignment of both programs to ensure AGNR is fielded in concert with AMCS. This coupling will provide unparalleled interoperability between ground and Aviation maneuver forces. The AGNR team continues integration efforts developing the UH-60M Modification Work Order and adding the CH-47F as the next platform for integration.

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Aviation Ground Power Unit 1.1 (AGPU 1.1) Sun Test

Future platforms include the AH-64E, MQ-1C Gray Eagle, and UH-60V. Additionally, the Aviation Radio Control Manager and eXtensible Flight System are now on contract for development to support an open system radio control capability.

Finally, PdM ACMC continues qualification efforts on a crypto-modernized version of its current air-to-air radio which will be designated the ARC-231A. The upgraded radio will include the SATURN waveform to replace the obsolete HAVEQUICK II standard.

Navigation and Air Traffic Services:

The Assured Airspace Access Systems Product Office (PdM A3S) had a highly productive year delivering Multi-Platform Anti-jam GPS Navigation Antennas (MAGNA) to support the first fielding to a Gray Eagle UAS company while continuing to

field the identification-friend-or-foe AN/APX-123A Common Transponder.

The Air Traffic Services team conducted site surveys and installations of the National Airspace Voice Recorder, Interim Voice Switch Replacement, Precision Approach Radar 2020, DoD Advanced Automation System/Standard Terminal Automation Replacement System, Digital Airport Surveillance Radar, and Instrument Landing System at Army airfields globally.

PdM A3S also initiated Phase II of the Enhanced Aviation Global Air Traffic Management Localizer Performance with Vertical Guidance, Embedded Global Positioning System and Inertial Navigation System (EAGLE) with Modernized GPS User Equipment-M code (EAGLE-M) Program. Phase II builds upon Phase I and completes the full airworthiness qualification of all EAGLE-M configurations. EAGLE-M coupled with MAGNA will ensure a more robust GPS solution is available to aircrews, increasing operational reach and survivability.

PdM A3S also continues early design efforts for an alternate positioning, navigation, and timing capability for rotary wing platforms to ensure Army Aviation maintains its ability to execute missions in GPS denied environments.

Ground Support Equipment:

The Aviation Ground Support Equipment (AGSE) Product Office remained actively engaged with fielding new and improved capabilities while continuing to sustain over 20 fielded products supporting the enduring fleet of Army aircraft. Significant efforts include fielding of the Self-Propelled Crane, Aircraft Maintenance and Positioning Increment II Expeditionary (SCAMP II) system, exceeding the 60% fielded mark for Pitot Static Test Set modifications, fielding six of the



eight funded Modified Flexible Engine Diagnostic Systems, and successfully moving through a competitive down select for an improved Aviation Ground Power Unit (AGPU 1.1).

The AGPU 1.1 program is PdM AGSE's top investment priority that will not only address critical capability gaps for the CH-47 fleet, but it will also be capable of supporting all enduring fleet aircraft. The program is currently undergoing test with user evaluations to follow in the coming fiscal year.

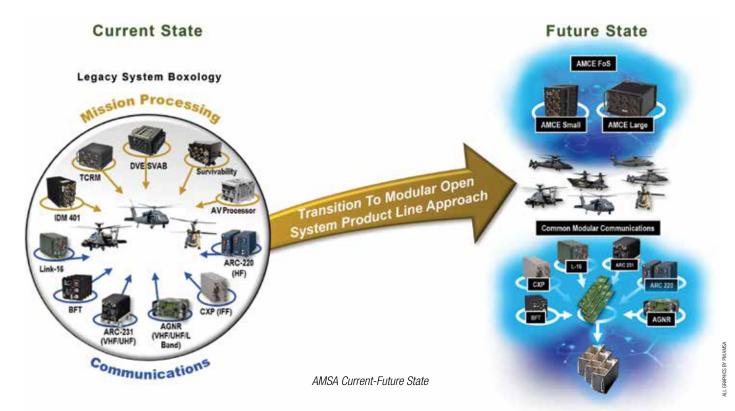
The AGSE family of systems continues to provide needed aircraft diagnostic, repair, and servicing capabilities to the enduring fleet as well as establishing the baseline of ground support capability required to support the Army's future fleet.

Posturing for the Future

While we continue to field capabilities to maintain operational relevance today, we are exploiting game-changing technologies to dominate contested airspace in the MDO environment of tomorrow. Aviation serves as a key enabler of the Army's success in MDO by its inherent presence across the breadth and depth of the battlefield. PM







AMSA's future architecture and modernization activities will enable Aviation platforms to serve as a network node in support of Mission Command in Joint All-Domain Command and Control (JADC2) Common Operating Environments ensuring the future force's ability to sense/detect, react, and converge capabilities at the decisive point.

A2E2 remains focused on development of modular, open Aviation Mission Computing Environment solutions that will rapidly introduce new capabilities and technology. The current AMCS effort serves as the initial increment delivering mission systems processing capabilities to the enduring and future fleets. The AMCS family of systems can be rapidly expanded in the future via rapid integration of software and hardware in support of operational requirements as multiple capabilities can be hosted on AMCS vice singular hardware components. Additionally, feedback from aircrews currently employing DVE will inform future requirements enhancing aircrew safety, increasing battlefield lethality, and improving aircraft survivability in the most austere environments.

A3S starts this coming fiscal year by conducting the first flight of the EAGLE-M with continued MAGNA fielding to the enduring fleet. When paired with the EAGLE-M navigator, MAGNA provides Army Aviation a layered Assured Position, Navigation and Timing capability improving lethality and survivability. A3S will also continue installing and modernizing fixed base air traffic control systems throughout the year.

ACMC will deploy the Centralized Aviation Flight Records System (CAFRS) version 5.0 in FY23 providing new capabilities for ATS and minor upgrades to legacy functions; this will be the last upgrade to CAFRS prior to transition to sustainment. As ACMC integrates and fields IMPACT, AGNR, and ARC-231A they will work closely with the PM AMSA Futures Cell to address emerging C5ISR Modular Open Suite of Standards Mounted Form Factor (CMFF) requirements supporting modular communications

development. CMFF will shape prototype communications chassis and card-based radio solutions which will greatly improve Aviation platforms' size, weight, power, and cooling constraints. CMFF will also facilitate the ability to rapidly integrate new waveforms and capabilities in response to operational and threat environments. Additionally, the ACMC team will continue IMPACT software development to support integration of emerging Artificial Intelligence and Machine Learning technologies to optimize dynamic mission changes and further reduce the sensor to shooter timeframe.

Finally, AGSE will complete PSTS Modifications next year and will begin initial production and deployment of approved AGPU 1.1 systems to Army CH-47 units. AGSE will also kick off prototype testing for an Aircraft Cleaning and Deicing System beginning in FY27. As the Future Vertical Lift platform programs mature, the AGSE team will be prepared to address any newly defined capability gaps associated with legacy ground support equipment.

Connecting the Two - Ready Now and Relevant Tomorrow

The Army of 2030 will incorporate the capabilities of our enduring and future fleets. To ensure we are ready to compete and win in Large Scale Combat Operations in all domains, our efforts to selectively sustain enduring capabilities while ensuring the development of superior technologies for the future fleet is critical.

Interoperability and convergence within the Joint Force will determine our ability to succeed as we look to enable JADC2. As Army Aviation continues to maintain the momentum of modernizing enduring capabilities to be ready now, we are simultaneously posturing and leveraging emergent technologies for the future.

COL Burr Miller is the Project Manager, Aviation Mission Systems and Architecture, Redstone Arsenal, AL.



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MOSA-The Army Aviation Modernization Moon Shot

By Mr. Matt Sipe

odern and relevant. Both words should describe systems used by the Soldiers who defend our nation. They are obvious requirements for new systems; however, the rub comes when trying to apply these words to enduring systems.

With ever tightening budgets, the challenge of modernizing enduring systems and making them more relevant is significant. Every enduring system was, at one time, the most modern and relevant material solution available. The enduring aviation systems will be paired with Future Vertical Lift systems to make up the future aviation fleet. The entirety of this future fleet remaining modern and relevant is the aviation modernization 'Moon Shot.' There is no shortage of ambition or challenge, but it is a challenge that must be vigorously pursued.

The core principles of Modular Open Systems Approach (MOSA) provide a path or framework to tackle this problem space through some strategic moves and adjustments to how Program Executive Office, Aviation (PEO AVN) procures systems, capabilities, and products and then supports the sustainment of these procurements over their entire lifecycle. Modularity (being able to change features at a more granular level) and Openness (ensuring ideal freedom of action for the government to select the best supplier for that feature) come together, or at least should, in every modernization decision – because everything that we sustain in the field can be improved in a modular and open way.

The MOSA principles:

- 1. Establish an Enabling Environment
- 2. Employ Modular Design
- 3. Designate Key Interfaces
- 4. Select and Implement widely used, consensus-based standards
- 5. Certify Conformance

Creating a Competitive Landscape

The aviation community has a very robust industrial base, especially when considering both defense and commercial sectors. PEO AVN is striving to not only increase competition to help address affordability issues for the Army but also to increase transparency relative to requirements and existing government systems. This enables industry to pivot and make

the needed adjustments to their business models and investments to align with the future procurement landscape.

The current state of this industrial base, largely based on historical acquisition behaviors, creates bespoke components for each platform. In the ideal future state, MOSA principles transform the acquisition process, creating a vibrant marketplace of components that enable an enterprise-wide product architecture.

As PEO AVN program continues to make key modularity decisions, additional Major System Components (MSC) with well-defined boundaries and interfaces will be identified. With each component specification that the Army views with an enterprise lens (working in collaboration with industry), the procurable landscape changes. The introductions of MSCs, whether the PEO AVN Prioritized Enterprise MSCs or individual program identified MSCs, has become a great way for the government to send strong demand signals to industry on key investment areas.

These MSCs are the procurable components where we want to see more competition and expect modernization



Enduring Systems

As PEO AVN continues to transition programs further into sustainment, they will continue to remain modernized and relevant. One of the biggest challenges associated with sustainment is handling configuration changes and obsolescence, especially given what has been witnessed in the past few years relative to supply chain issues. These obsolescence programs can offer an opportunity for the USG to pivot and pair these opportunities with key modularity and openness efforts to enable efficient and effective obsolescence management as well as opening the door to future modernization efforts. Furthermore, solving these obsolescence challenges with enterprise solutions assists in the configuration management through the reduction of disparate systems, sub-systems, components, etc.

Collaboration

Even before MOSA became a statutory requirement for all new start programs in 2017 with the National Defense Authorization Act and then extended the scope in 2021 to include modernization of enduring systems, PEO AVN began internal collaboration efforts across

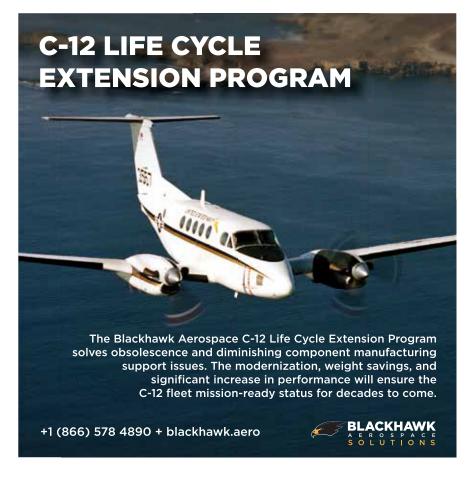
major programs. FVL programs helped to highlight that there are better ways to tackle modernization across the enterprise than the status quo and that collaboration internally and with industry is critical to solving 'Moon Shot' kinds of challenges.

The MOSA Transformation Office looks across new start programs and those systems that will endure alongside them to identify synergies and methods for enterprise MOSA concerns across the fleet. Additionally, industry collaboration is substantially increasing as well, primarily through the Vertical Lift Consortium (VLC) and the Architecture Collaboration Working Group (ACWG). Any US company can participate in model review and investigation of our explorative "sprints" by joining the ACWG; likewise, as we move to specification details, standardized interfaces, and prototyping, companies can join the VLC to participate in the emerging open and competitive landscape.

Mr. Matt Sipe is the director for the Modular Open Systems Approach (MOSA) Transformation Office, Program Executive Office for Aviation, Redstone Arsenal, AL.

updates. They are also key areas that will be critical to driving alignment across the future fleet and PEO AVN enterprise to make modernization across the fleet more achievable, especially within a fiscally constrained environment.

PEO AVN also realizes that the competitive landscape is also driven and sustained by the set of contracting vehicles actively utilized. Over the last two decades, there have only been a few programs that have begun to break the mold of only using Original Equipment Manufacturer (OEM) centric vehicles; however, the tides are turning. Gone will be the days of being three years away from having the right contract vehicle available, thus reducing time to field and enabling lifecycle competition. With procurable MSCs being defined and strong boundaries between things like Air Vehicles and Mission Systems being drawn, contracts are beginning to follow. There is a clear need across the enterprise to rapidly and easily reach OEMs, integrators, and technology suppliers. As future contract vehicles will reflect these needs more and more, competition throughout the lifecycle will also be enabled.



Logistics Support Technician of the Year Award

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CW3 Phillip R. Bogard 12th Combat Aviation Brigade Katterbach, Germany

CW3 Ross Bogard serves as the Support Operations Officer-Air (SPO-A) for the 12th Combat Aviation Brigade (12 CAB) headquartered at Katterbach Army Airfield, Germany. Throughout the preceding year, his dedication and logistics expertise directly enabled 12th Combat Aviation Brigade to deploy two aviation battalions by ground and air more than 1.000 miles from home station, sustain aviation operations accounting for more than 4,355 flight hours in support of Operation European Assure, Deter, and Reinforce (OEADR), and develop novel solutions to unique and challenging logistics problems that enabled 12 CAB to exceed DA goals for readiness while providing a strategic deterrent in the face of Russian aggression in the European Theater. In addition, his unfailing persistence and strict adherence to regulation while managing the brigade's recoverable parts turn-in program (ZOAREP) throughout the calendar year resulted in more than \$18.5M worth of recoverable parts credit being returned to the brigade's flying hour program. His direct hand in procuring several un-forecast large purchases such as a collapsible filtered air paint booth and enhanced aerial firefighting equipment have drastically increased safety for Aviators and Soldiers throughout the formation. CW3 Bogard's achievements identify him as the Army Aviation Association of America's 2022 Logistics Support Technician of the Year.

Outstanding Logistics Support Unit of the Year

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Commander: MAJ Jeffrey M. Frantz

Senior NCO: 1SG Karl N. Kurtz

Company D, 3rd Battalion, 160th Special Operations Aviation Regiment (Airborne)

Hunter Army Airfield, GA

D/3-160th SOAR (A) provided unparalleled aviation maintenance support to the 160th SOAR (A) and elite Special Operation Forces around the world. Over the past year, Delta Company supported Special Operations aviation operations in three geographic combatant commander's areas of responsibility and more than 35 training exercises across the continental United States, while simultaneously maintaining Aviation Unit and Intermediate Maintenance capabilities at Hunter AAF, GA. They completed 21 phases, 28 Modification Work Orders (MWOs), 134 Maintenance Engineering Calls (MECs), resulting in a cost savings in excess of \$4 million, and executed more than 3,165 work orders on a fleet of 16 MH-47G and 10 MH-60M uniquely modified helicopters. Delta Company's maintenance excellence directly enabled the Battalion's execution of its 5,964 flying hour program. They maintained a near persistent presence in the CENTCOM AOR supporting Operations Freedom's Sentinel and Inherent Resolve. As the Regiment's maritime battalion. Delta Company analyzed the unique challenges posed by conducting aviation maintenance in overwater and shipboard environments. The team conducted over 60 days of aviation maintenance support while embarked on US Navy vessels, enabling real-world support to combatant commanders and four CONUS training events all while maintaining a 100% Fully Mission Capable (FMC) rate. The remarkable performance by D/3-160th SOAR(A) Soldiers clearly identifies them as the 2022 AAAA Outstanding Logistics Support Unit of the Year.

Army Aviation Materiel Readiness Award For a Contribution by a Small Business

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Pinnacle Solutions, Inc.

Huntsville, Alabama

Pinnacle Solutions Inc. provides materiel readiness support to the U.S. Army's RQ-7Bv2 Shadow Unmanned Aircraft Systems Training Battalion, the 2nd Battalion, 13th Aviation Regiment at Fort Huachuca. Arizona. Pinnacle's efforts supported 360 Army Aviation Unmanned Operator students in completing 1,270.3 hours of flight training from 1 August 2021 to 31 July 2022. The Pinnacle team averaged a Fully Mission Capable (FMC) rate of 91% for all associated aviation system equipment, far exceeding the Army standard of 80%; and supports 63 end items valuing \$36,174,156, the equivalent of four fully fielded Shadow UAS units. The local fleet is made up of 15 aircraft, 10 ground control stations (GCS)/4 portable (P)GCS, 10 ground data terminals (GDT)/4 (P)GDT, 8 launchers, and 12 tactical automatic landing systems. The Pinnacle team balances FMC rates between end items on two airfields during 20-hour-a-day operations to meet the training mission, while sustaining an aviation maintenance related class A-C accident rate more than five percent better than the U.S. Army-wide rate for the Shadow UAS during FY 22. This focus and dedication to the training mission identifies the Pinnacle Solutions team as the winner of the 2022 AAAA Materiel Readiness Award for Contributions by a Small Business Organization.



2022 National Functional Award Winners

Army Aviation Association of America

Materiel Readiness Award For Contributions By An Industry Team

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PeopleTec Enterprise Data Science and Analytics Team

Huntsville, Alabama

PeopleTec is part of the ARSOAC Aviation Maintenance Directorate (AAMD). USASOAC(A), Enterprise Data Science & Analytics Team (EDSAT) which provides business intelligence (BI) and automation solutions supporting the annual execution of a ~45,000-hour flight program, valued at ~\$280M. This 15-person team administered and trained 2.555 users while developing. managing, and refining 476 solution products. These products spanned flight, maintenance, financial, and personnel data from 10 information systems, more than 100M records, over 10+ years of historical and ongoing activities. Over the last year, the team delivered critical solutions including: a flying hour program model, accurate to within 2%, that enabled early detection of inflationary impacts to mission; a work unit code correction model which cleans records at 100x a human's rate: an industry-leading computer vision phase study that provides the basis for improvement through digital simulation; and MRL - software that automates the Commander's Aviation Maintenance Training Program (AMTP) providing the first automated risk assessment worksheet for Army Aviation maintenance. Comprised of Army Aviation veterans, trained as data professionals, with more than 100 years of experience. working alongside equally experienced and highly proficient software/data engineers from PeopleTec, they are passionate and committed to improving our Soldiers' ability to fight and win the Army's mission. Their accomplishments clearly earned for them the 2022 AAAA Materiel Readiness Award for Contributions by an Industry Team.

Army Aviation Materiel Readiness Award For Contributions By A Major Contractor

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M1 Support Services

Denton, Texas

M1 Support Services made outstanding contributions to the Materiel Readiness of the United States Army Aviation Center of Excellence by providing quality maintenance and logistics support services for aircraft assigned to the U.S. Army in support of initial entry and graduate aviation training requirements at Ft. Rucker, Alabama. M1 safely executed a 229.093 flight hour program (14% increase over 2021), involving 509 aircraft (12% decrease) in a high OPTEMPO environment where maintenance operations occur 24 hours per day, 7 days per week. Faced with COVID-19 force protection requirements and ever changing USAACE fleet size and composition, M1 led stakeholder collaboration to solve complex problem sets and grew its culture of continuous improvement to benefit the USAACE mission. A Continuous Improvement (CI) culture is naturally occurring as maintenance and enabling Directorates apply CI principles taught by M1 University to reduce waste, streamline processes, and eliminate roadblocks. Cl initiatives reduced phase cycle time, improved maintenance/ logistics process flow and reduced customer wait time. M1 achieved historic Ft. Rucker levels of maintenance performance by sustaining past achievements and applying continuous improvement to drive further progress: 9,614 more aircraft issued to fly, FMC/NMCM/NMCS percentages sustained at 2021 levels, and issuable aircraft increased 7 aircraft per sortie. This focus and dedication identify them as the 2022 AAAA Materiel Readiness Award for Contributions by a Major Contractor.

Unmanned Aircraft Systems Soldier of the Year Award

Sponsored by General Atomics Aeronautical Systems, Inc.



SPC Antonio L. Feliz

Tactical UAS Detachment, Military Intelligence Company, Group Support Battalion, 7th Special Forces Group (Airborne) Eglin Air Force Base, Florida

SPC Antonio Feliz is a 15W, RQ-7Bv2 Operator assigned to 7th SFG(A), GSB, MICO, TUAS Platoon. He went through multiple joint training exercises. Special Forces Basic Combat Course-Support (SFBCCS) and participated in five airborne operations in less than three months leading up to his deployment to Syria during Operation Inherent Resolve (OIR) in support of Special Operation Task Force – Levant (SOTF-L). Once deployed, he quickly adapted and demonstrated his proficiency on the RQ-7Bv2 Shadow platform in a combat environment. During clearance operations, he provided over-watch eliminating imminent threats, resulting in the successful interdiction of 128 Da'esh fighters captured and two EKIA. As a switchblade UAS tactical missile system subject matter expert, he enabled multiple kinetic strikes on several combatants during attempts to attack partner force bases by ISIS fighters. SPC Feliz flew the RQ-7Bv2 for a total of 470 combat hours in addition to mastering Group I & II UAS. He served a critical role in the Legion Air platoon successfully conducting 383 flights and 2,924 combat flight hours of ISR in support of AOB-Syria and SOTF-L. Following his redeployment, he was designated as the next Unit SUAS Master Trainer. SPC Feliz's dedication and outstanding performance clearly identifies him as the Army Aviation Association of America 2022 Unmanned Aircraft Systems Soldier of the Year.

2022 National Functional Award Winners

Army Aviation Association of America

Unmanned Aircraft Systems Operations Technician of the Year Award

Sponsored by AAAA



CW4 Julian A. Caicedo

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

CW4 Julian Caicedo's performance as a 160th SOAR (Abn) UAS Operations Technician and Echo Company, 2-160th Operations Officer is unmatched. He has deployed to the CENTCOM Theater as the Army Special Operations Aviation (ARSOA) UAS OIC at a site conducting 24-hour operations in support of Joint Special Operations Forces (SOF). While there, he played an integral role in establishing a more secure area of operations for the unit to safeguard personnel during enemy attacks - just one instance of his willingness to go above and beyond requirements to help Soldiers. Additionally, the company commander selected Julian to plan, resource, and lead the Regiment's effort in rapidly deploying UAS anywhere in the world. With minimal guidance on how to rapidly deploy and provide 24 hours of intelligence, surveillance, and reconnaissance (ISR), CW4 Caicedo developed load plans working with the air movements team, sought the lessons learned of similar Air Force units, put together an intelligence packet with much needed resources and information that can be utilized in any theater, and made contacts with other SOCOM programs. Most notable, he always put Regiment or Battalion projects aside any time a Soldier needed mentorship or quidance. CW4 Caicedo's achievements identify him as the Army Aviation Association of America's 2022 Unmanned Aircraft Systems Operations Technician of the Year.

Unmanned Aircraft Systems Unit of the Year Award

Sponsored by Textron Systems)



CPT Robert Machamer



Senior NCO:

SFC Robert Hennes

Tactical UAS Detachment, **Military Intelligence** Company, Group Support **Battalion, 7th Special** Forces Group (Airborne)

Eglin Air Force Base, Florida

The TUAS Detachment, MICO, GSB, 7TH SFG(A) successfully conducted 383 flights and 2.924 combat flight hours of Intelligence. Surveillance, and Reconnaissance in support of Special Operations Task Force- Levant and AOB-Syria. The Detachment provided critical ISR on 31 December 2021 during rocket attacks both at Conoco and Shaddadi outstations, resulting in a three-man rocket team being identified, followed, and captured by SFOD-A 5326 and Syrian Democratic Forces. During clearance operations, the TUAS Detachment sustained two lines of effort in providing ISR over-watch and eliminated an imminent threat to friendly forces and civilian population, resulting in the successful interdiction of 128 Da'esh fighters captured and two EKIA within AI-Hawl IDP Camp. The Detachment successfully enabled AOB-Syria through the first Shadow feed capable of Augmented Reality features via an organic PED node. The successful integration facilitated the creation and dissemination of mission critical intelligence, typically void at an AOB level. This integration enabled over 25 successful type 1 and 2 operations against Da'esh networks and drove SOJTF-L's development of a critical target package. It later became a requirement for future TUAS Detachments deployed under SOTF-L. The Soldiers of the TUAS Detachment earned recognition as the 2022 Army Aviation Association of America's Outstanding Unmanned Aircraft System Unit of the Year.

Fixed Wing Unit of the Year Award

Sponsored By: CAE USA Defense & Security)



Commander: LTC Brent J. Pafford

Senior NCO: CSM Timathy J. Bevis

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

Fort Hood, TX

The 15th MI BN (AE) is a multi-dimensional. inter-discipline intelligence collection organization tasked to maintain globally responsive intelligence weapons teams (IWT) capable of tailorable and scalable manned and unmanned aerial intelligence, surveillance, and reconnaissance (A-ISR) support to combatant commanders. Over the past year, the unit supported antiterrorism and border defense operations in four different countries while maintaining a rigorous training regimen from home station. During this time, 15th MI BN (AE) flew more than 18,500 flight hours while managing the Army's most extensive Aircrew Training Program and supporting named operations. Significant highlights from this period include innovation of remote split operations as well as the implementation of the Predator-Integrated SIGINT Architecture (PISA) modification. Operational Support of MQ-1Cs and MC-12s include support to multiple Special Operations units across the globe in support of future deployment operations, U.S. Customs and Border Patrol on the Texas border and coast of California. In addition to these training and operational highlights, the 15th MI BN (AE) diligently coordinated numerous personnel, aircraft, and equipment movements. The logistical challenges created by COVID-19 were overcome by the unit's innovative culture that ensured its commitment to the global operations. The accomplishments of the Soldiers, civilians and Defense industry partners of 15th MI BN (AE) clearly identify them as the 2022 Army Aviation Association of America's Fixed Wing Unit of the Year.





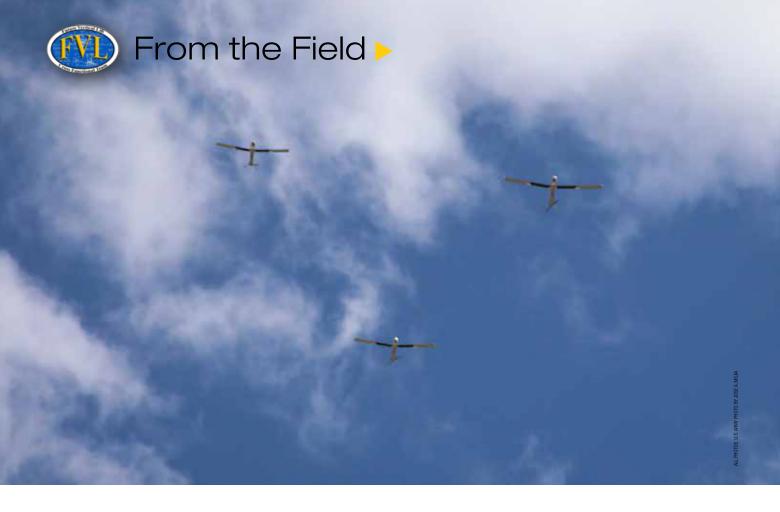
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we support your multi-domain operations ensuring reliability and aircraft readiness when you need it most.



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From Concept to Reality: FARA Ecosystem Experimentation at the Tactical EDGE

By LTC Tanner Spry

s an integral component of Army Futures Command's Campaign of Learning, the Future Vertical Lift Cross-Functional Team (FVL CFT) hosted the second iteration of its annual experimentation demonstration event designed to stimulate innovation and test future warfighting capabilities today. For three weeks in April and May, 23 Department of Defense organizations, including U.S. Special Operations Command, 82nd Airborne Division, Defense Advanced Research Projects Agency (DARPA) and DoD Strategic Capabilities Office, as well as a handful of industry partners and seven international allied partners converged at Dugway Proving Grounds, UT, for this year's Experimental Demonstration Gateway Event (EDGE).

As an experimentation demonstration, EDGE is neither equipment testing nor an exercise. Instead, it is a uniquely focused opportunity that resides in the middle of the spectrum between testing and a training exercise. It allows each participating technology to test interoperability and expand capabilities in a tactical environment alongside other developing technologies, all under the command and control of a tactical division headquarters and joint force commander.

To provide relevancy and context to experimentation, EDGE22 leveraged a warfighter-based scenario set in the United States European Command (EUCOM) theater of operations with international allies involving deep sensing ISR tasks, enemy IADS threats and simultaneous air assault operations in support of a linear barrier wet gap crossing to secure both near and far side objective areas. The 82nd Airborne Division served as the Combined Joint Task Force Headquarters executing command

A formation of Air Launched Effects (ALE) conduct reconnaissance and target threat identification during EDGE22 at Dugway Proving Grounds, UT.

and control with an adaptive C2 network from their Multi-Domain enabled division tactical command post (DTAC).

EDGE22 was used as a risk reduction effort leading up to the Army's annual Project Convergence series to fundamentally achieve three outcomes. First to capture what we learned throughout the event to validate assumptions and facts about our technologies, future investments, and transition opportunities to deliver capabilities to the warfighter. Second to identify what requirements were validated, what requirements need adjustment based on facts and what requirements do we need to write to close known capability gaps discovered during

our experimentation and demonstration. Last to have a robust data collection effort, so that we can record and analyze the data to write reports for future decision and archive it to preserve the lessons learned for future experimentation and demonstration events. The main themes for EDGE22 included enhancements in Interoperability/International Partnerships, Aerial Tier Network resiliency, Interactive Air Launched Effects (ALE) Drone Swarming, Multi-INT Sensing and Electronic Warfare, and Enhanced Sustainment.

Interoperability and International Partnerships

While building on lessons learned and advancements made during previous experimentation events such as EDGE21 and Project Convergence 21, EDGE22 was unique as it was the first time FVL CFT included the participation of international military partners. Soldiers from seven allied nations - Italy, Germany, Netherlands, United Kingdom, Australia, Canada, and France - participated in this event. This involved incorporating allied tactical forces and technologies into the scenario, providing an early and necessary opportunity for learning and collaboration in the developmental process to progress interoperability as part of the larger modernization effort.

"Achieving interoperability is a massive systems engineering challenge," said Under Secretary of the Army Gabe Camarillo. "There's no substitute for getting out in the dirt and figuring out how these systems are going to work together and talk to each other."

Achieving interoperability between joint and allied partners is difficult. Standards in digital message formats, network compatibility and Open Systems Architecture has proven vital to this effort, and the U.S. Army and military cannot afford to wait until capabilities are fielded to think about this problem set.

BG Brandon Tegtmeier, deputy commanding general for the 82nd Airborne Division, spoke to this while at EDGE22: "We never fight alone. We're always with our Allies and partners, and it's always a big effort to work interoperability at the beginning of a fight or in a fight. Here, we're baking it into the technologies earlier with all the partners that are here. That is a big step."

"What I think we're witnessing here is a revolution in the way military operations are conducted," said Air Commodore Robert Adang, commander of the Royal Netherlands Air Force Helicopter Command. "We come from a time where capabilities were standalone, employed in their own specific domain. Here, we see a network of very complex systems that work with each other, partly manned, partly autonomous, achieving synchronized effects that haven't been possible until today."

Aerial Tier Network

The Aerial Tier Network is the backbone to Army Aviation's ability to fully benefit from the next generation of technological advancements and transformational speed, range, and endurance that the Future Long Range Assault Aircraft (FLRAA) and Future Attack Reconnaissance Aircraft (FARA) delivers. To dominate the lower tier of the air domain, joint force commanders must achieve decision dominance via accelerated kill chains at extended distances. A stable and resilient network is required to ensure Soldiers retain the ability to transmit data anywhere and anytime it is relevant and needed on the battlefield. With the help of the Network Cross Functional Team, PEO C3T, the Aerial Tier Network established for EDGE22 provided a multi-classification, multi-domain network supporting both DoD forces and Allied partners with digital and voice communications across the aerial tier. By experimenting with eight different waveforms while performing similar mission sets as those conducted in previous events, significant advancements are being made in bandwidth utilization and the ability to operate at extended ranges.

The Wolf Pack – Interactive Drone Swarming

As an integral component of the FARA ecosystem, ALEs provide a low-

cost, semi-autonomous reconnaissance capability that enhances the range, lethality, and survivability of our future manned platforms. During EDGE22, multiple waves of ALE-Small swarms with detect, identify, locate, report (DILR) and decoy payloads were deployed in efforts to overwhelm replicated enemy IADS threats. Following IADS detection, FARA surrogates deployed additional ALE-Small swarms of kinetic attack payloads for destruction of IADS and subsequent battle damage assessments of the targets. This was the largest number of ALEs flown on a mission to date, which is a significant accomplishment, but the most valuable lessons learned were associated with simultaneous launch and recovery techniques and the interactive behaviors of multiple unmanned systems acting as a team to achieve a desired outcome. In future events, the FVL CFT fully intends to capitalize on the progress made in this area and continue to leverage experimentation demonstrations such as EDGE to inform the requirements and development of this evolving capability.

Multi-INT Sensing and Electronic Warfare

Significant improvements were noteworthy regarding various sensors and our ability to conduct multi-INT sensing across ELINT, COMINT, SIGINT, cyber, SAR, and EO/IR areas of intelligence collection. In particular, the key to success was to directly connect deep area sensing to the tactical edge of the battlefield, such as a fixed wing HADES surrogate scanning for threat emitter signals and refines threat location and near-real time passing of actionable target data to shooters in position to destroy threats. This afforded the unit headquarters with the ability to



Soldiers from 1st Brigade, 82nd Airborne Division equipped with IVAS and ENVG-Bs conduct an air assault during EDGE22 at Dugway Proving Grounds, UT



German and Italian Soldiers report identified threats during an air assault while at EDGE22 at Dugway Proving Grounds, UT.

geolocate threats and improve situational awareness that enabled the use of kinetic and non-kinetic effects to counter and penetrate Anti-Access Area Denial (A2AD) systems. Coupled with the capabilities of Long-Range Precision Munitions, Army Aviation is demonstrating the capability with these improved technologies to organically accomplish every component of the Find, Fix, Finish, Exploit and Analyze cycle while focusing on interoperability with Joint and Coalition

partners to provide options for combatant commanders at the strategic, operational, and tactical level.

Enhanced Sustainment

For the first time, this year's event incorporated the prototyping and demonstration of advanced maintenance capabilities designed to meet FVL sustainment and affordability goals. The sustainment demo highlighted ongoing efforts and technological advancements

designed to increase systems' reliability, availability, and maintainability. These capabilities will prove critical in Army Aviation's ability to maintain increased OPTEMPO during Large Scale Combat Operations in a contested and expeditionary logistics environment. As an example, some of the maintenance capabilities demonstrated included a virtual reality version of a UH-60L for maintainers to train and maintain maintenance task proficiency. ChipCheck/ MetalSCAN Oil Analysis Tools provides on-site oil sample results and reduces the need for reach-back support. Several software tools were demonstrated that are physics based or leverage artificial intelligence and machine learning to provide operational commanders and maintenance planners an unprecedented ability to manage and predict the component health and overall future fleet readiness. All in all, these technologies will enable enhanced sustainment efforts while lowering operation and support (O&S) costs and represent an important element of the technology development process.

LTC Tanner Spry is the Director for G35 Plans for the Future Vertical Lift Cross-Functional Team at Redstone Arsenal, AL.





AAAA Aircraft Survivability Equipment Symposium is Back By CW4 Joe Pisano, U.S. Army Retired

ollowing a two-year hiatus forced by COVID pandemic safeguards, the Army Aviation Association of America sponsored the Aircraft Survivability Equipment Symposium (ASES) September 12-13 at the Griffin Gate Marriott in Lexington, KY and saw the largest number of attendees since the first event in 1983. This event provided the opportunity for government and industry to discuss the ever-changing environment in Army Aviation, the current status of Army Aviation's programs, and future requirements necessary to support the Aviation warfighter and combatant

commander as the Army remains ready to fight and win today while transitioning from counterinsurgency operations to large scale combat operations and preparing for future multi-domain operations.

The focus was on the ASES theme of "The Pace of Aviation Survivability – Adapt to Win" with Mr. Mark Kitz, Program Executive Officer Intelligence, Electronic Warfare And Sensors delivering the keynote and once again this year, provided funding for aviation mission survivability officers (AMSOs) from around the world to attend the event, including two days of follow-on govern-

It was standing room only as AAAA President, MG (Ret.) Tim Crosby, opened the 2022 AAAA Aircraft Survivability Equipment Symposium in Lexington, KY, Sep. 12, 2022.

ment sponsored classified sessions.

The ASES panels focused on warfighter leaders, industry/operational support, other Services programs review and future work. Other speakers included BG Phillip Ryan, commanding general of the U.S. Army Special Operations Aviation Command; Mr. Rodney Davis, Deputy Program Executive Officer for Aviation; Mr. Douglas Barnes, deputy



Mr. Mark Kitz, Program Executive Officer Intelligence, Electronic Warfare and Sensors, provides the keynote address.



AAAA Senior VP, MG (Ret.) Walt Davis (left) moderates the Warfighter Leaders panel with (I to r) COL Clint Cody, commander, 101st Combat Aviation Brigade; COL John McElveen, South Carolina State Army Aviation Officer; and CW5 Jared S. Jones, Command Chief Warrant Officer, 97th Troop Command.

55



ASE Award winner for 2021, CW5 Elwood, with (I to r) MG (Ret.) Crosby, Mr. Kitz, Mr. Barnes, and Mr. Dave Harrold, BAE Systems (award sponsor).

project manager ASE; COL Kevin Chaney, project manager for Future Attack Reconnaissance Aircraft; COL Joshua Higgins, director of U.S. Army Aviation Center of Excellence Capability Development Integration Directorate, representing Aviation Branch Chief, MG Michael McCurry; COL Jay Hopkins, chief of staff for the Future Vertical Lift Cross-Functional Team, representing the director, MG Walter Rugen; and Mr. Bradley Thomason, director of the Threat Systems Management Office at PEO Simulation, Training and Instrumentation (STRI) representing the PEO, Ms. Karen Saunders.

The numerous aviation mission survivability officers (AMSOs) from all compos and locations around the world also participated in two additional days of government classified sessions.

Awards

The National AAAA ASE, CW3 Christopher M. Allgaier Aviation Mission Survivability Officer, and Avionics Awards from 2020, 2021, and 2022 were presented to recognize outstanding achievement. Five of the nine awardees were able to be present and are pictured on the this page. The awardees are:

ASE Award (Sponsored by BAE Systems) 2020, CW3 Charles A. Robertson,



ASE Award winner for 2022, SGT Arreola, with (I to r) MG (Ret.) Crosby, Mr. Kitz, Mr. Barnes, and Mr. Harrold.



Avionics Award winner for 2020, SGT Darian Billowitz, with (I to r) MG (Ret.) Crosby, Mr. Kitz, and Mr. Mike Best from Cubic Defense Systems (award sponsor).

Headquarters Company, 1st Battalion, 223rd Aviation Regiment, 110th Aviation Brigade, Fort Rucker, AL; 2021, CW5 Bryan C. Elwood, Headquarters, U.S. Army Special Operations Aviation Command, Fort Bragg, NC;

2022, SGT Lason T. Arreola, Company D, 3rd Battalion, 160th Special Operations Aviation Regiment (Airborne), Hunter Army Airfield, GA.

AMSO (Sponsored by Miltope Corporation) 2020, CW4 Sean M. Martin, Headquarters and Headquarters Company, 101st Combat Aviation Brigade, Fort Campbell, Kentucky;

2021, CW3 Matthew T. Boedeker, 3rd



AMSO Award winner for 2022, CW4 Smith, with (I to r) MG (Ret.) Crosby, Mr. Kitz, CW4 Travis Plummer, USAACE Survivability Branch, and Mr. Pat Morrison from Miltope Corporation (award sponsor).



Stephanie Martin, wife of Avionics Award winner for 2021, SGT Derrick Martin, accepts the award on behalf of her husband who is in Warrant Officer Flight Training at Ft. Rucker, AL. With her is (I to r) MG (Ret.) Crosby, Mr. Kitz, and Mr. Mike Best.

Battalion, 82nd Aviation Regiment, 82nd Combat Aviation Brigade, Fort Bragg, NC; and

2022, CW4 Stephen J. Smith II, Company D, 1st Battalion, 160th Special Operations Aviation Regiment (Airborne), Fort Campbell, KY.

Avionics Award (Sponsored by Cubic Defense Systems, Inc.)

2020, SGT Darian Billowitz, Company D, 2nd Battalion, 160th Special Operations Aviation Regiment (Airborne), Fort Campbell, KY;

2021, SGT Derrick W. Martin, Company D, 1st Battalion, 229th Aviation Regiment

16th Combat Aviation Brigade, Joint Base Lewis-McChord, WA; and 2022, SGT Mills E. Braswell, Company D, 4th Battalion, 160th Special Operations Aviation Regiment (Airborne), Joint Base Lewis-McChord, WA.

The Symposium is back on track and included an exhibit hall with 24 vendors and a mix of over 400 military, civilian and industry attendees.

CW4 (Ret.) Joe Pisano is the editor of ARMY AVIATION Magazine.



Attendees mingle among the 24 exhibits at the ASE Symposium.



SPECIAL FEATURE:

80th Anniversary of Army Aviation

Army Aviation in 1973-1982: A Decade of Transition

By General Robert M. Shoemaker, U.S. Army Retired



PIFILEPHO

Editor's Note: In celebration of the 80th Anniversary of Army Aviation, we continue reprinting a series of articles from the December 1992 50th Anniversary issue of ARMYAVIATION Magazine penned by many of the original pioneers in each of the remaining issues this year.

t the start of the fourth decade of Army Aviation, the U.S. Army had just finished its withdrawal from Vietnam. Retrenchment rather than expansion was the order of the day. The production of new aviators was cut back from its peak of 7,800 in 1969 to an annual total of only 1,255 in 1973. Aviation School activities were consolidated at Fort Rucker, Alabama. Fort Wolters, Texas was closed, and individual aviator training at Fort Stewart, Georgia was ended.

During the 1970s, production of new aircraft was sharply curtailed. The spares production base atrophied as the smaller Army fed on the abundance of spares left over from war-time stocks. Aviation material managers gave priority to development programs for new attack and troop lift helicopters and to product improvement programs for helicopters brought back from Vietnam. But the major aviation story of the decade was the officer aviator's search for an identity. A discussion of the identity crisis is at the end of the summary.

In the 1960s, Army Aviation could claim to have been at the forefront of change and progress in the Army; from the Howze Board, through Air Assault testing, and the fighting in Vietnam.

But in the 1970s, the Army as a whole

went through a wrenching process of rebuilding, reorganizing, and refocusing. Army Aviation can claim a prominent – but not preeminent – role in this decade of transition.

The Army had to recruit its soldiers in a draft-free environment, with little support and often active hostility from the media, academia and even elements of government. At the same time, it was necessary to rebuild an NCO Corps which had been badly used up during the Vietnam War, and to retrain an Officer Corps which tried to compensate, often poorly, for the lack of trained sergeants. It was a decade of austere budgets, and so many shortages of people and material that an Army Chief of Staff, General Shy Meyer, described the force as a "hollow army."

The Formation of MASSTER

But even while the Army was beset with the extraordinary challenges of reshaping and rebuilding, Army leaders in Washington had the wisdom to commit scarce resources to a substantial investment in the Army's future. A test and experimentation command (initially called MASSTER, later TCATA, then TEXCOM) was activated at Fort Hood, Texas with several important areas of investigation. One of the MASSTER tasks was to conduct troop tests of an Air Cavalry Combat Brigade (ACCB). In order to get a troop test unit, the 1st Armored Division at Fort Hood in 1971 was reflagged with the 1st Cavalry Division colors and reorganized into the triple Capability (TRICAP) configuration.

GEN Shoemaker commanded the first experimental Aerial Combat Recon Company, and in 1962 he served on the Howze Board. Following three tours in Vietnam, he organized the Army's First Cav Air Attack Brigade. He later served as Commanding General, the 1st Air Cav Division, Ill Corps and FORSCOM.

The First Team's 1st Brigade (Armor) included two tank battalions and one mechanized infantry battalion, the 2nd Brigade (ACCB test unit) was made up of one Air Cavalry Squadron with large troops of 31 helicopters, and a new unit called an Attack Helicopter Squadron with troops composed of 12 Scouts (OH-58) and 21 Cobra/TOW. The ACCB also had an organic Support Battalion with supply, maintenance, transportation capabilities including a company of 16 Chinooks. The 3rd Brigade (Air Mobile) consisted of three light infantry battalions. The 227th Assault Helicopter Battalion with 60 troop carrying Hueys and 12 Cobras was added to the normal division troops.

Evaluating TRICAP

Although the TRICAP Division was organized for pragmatic reasons having to do with resource availability and principally to provide a test bed for the ACCB, the division looked so interesting it was decided to assign MASSTER the additional task of testing and evaluating the TRICAP division itself. A series of ACCB and TRICAP troop tests was conducted at Fort Hood

in 1971 and 1972. They resulted in the Department of the Army decision to make the Air Cavalry Combat Brigade a separate brigade (6th Cavalry Brigade) and to assign it to III Corps at Fort Hood.

The TRICAP tests showed that the TRICAP division worked in the field and could be controlled and supported. But analysis of the Army troop basis and like deployment scenarios developed no compelling reasons why the Army should add a sixth type of division (TRICAP) to the five already in the force structure (Infantry, Armored, Mechanized Infantry, Airborne Infantry and Air Assault). Therefore, at the conclusion of the tests, DA directed that the 1st Cavalry Division be converted to a standard Armored Division.

With the return of the Army from Vietnam, the legacy of the Air Assault Division was retained in the colors of the 101st Airborne Division (Air Assault). This division had converted to the Air Assault configuration in Vietnam in 1969 and, upon return to Fort Campbell, Kentucky, enthusiastically took up the challenge as the Army's only air assault division. A major high point was the movement of the entire division to Germany in 1976 where it participated successfully in the annual REFORGER exercise.

A pivotal aviation event occurred in October 1975 when approximately 50 senior Army leaders assembled at Fort Hood for TRAINCON 75; two days of demonstrations and conferences on the operations, tactics, and training of Army Aviation units. The group included the Army Chief of Staff and the Commanding Generals of TRADOC, FORSCOM, DARCOM, Army Corps, Divisions, and Branch Training Centers. The day and night live fire demonstrations put on by the 6th Cavalry Brigade (Air Combat) were focused on the Warsaw Pact threat. At the meeting, the top leaders of the Army renewed their commitment for a strong aviation force with modernized equipment as an integral part of Army forces. This strong support was demonstrated by the designation of helicopter systems as two of the "big five" high priority development programs for the 1970s.

By the end of the decade, these development efforts paid off with the start of production and fielding of the UH-60 Black Hawk, a true squad

carrier; and successful development of the soon-to-be-fielded AH-64 Apache. (The top quality of these helicopters was demonstrated by their superb battlefield performance in later years in Panama and Southwest Asia.) Principal product improvement programs were the upgrade of the Chinook helicopters to the much more capable Delta configuration and a series of incremental improvements to the OH-58 Scout and AH-1 Cobra.

Emerging Night Doctrine

There were smaller, but significant, material developments during the decade. The promise of true 24 hour, allweather helicopter capability took a step forward as emphasis was placed on systems for night vision, target acquisition, fire control, and position location. Rudimentary experiments conducted by MASSTER in 1972 using first generation night vision goggles, developed originally for ground use, showed the promise (and limitations) of image intensification devices to permit combat flying under most night conditions. During the decade, these devices were modified and improved to enhance their capability for helicopter use. Development of target acquisition and fire control components brought improved direct vision optics, infrared viewing devices, helmet mounted sights, mast mounted optics, and use of fiber optics.

There was experimentation and development in ways to enhance survivability of helicopters: paints to reduce optical as well as infrared and radar signatures, cockpits with flat instead of curved plexiglass to reduce reflective glint, instruments to warn crews of enemy radar operation and lock on and shielding to screen exhaust heat in order to reduce vulnerability to heat-seeking warheads. While many of these developments appeared to be helpful, experiments at Fort Hunter Ligget and Fort Hood, and the Ansbach trials in Germany continued to show that suitable flight tactics in the Nap of the Earth (NOE) remained the aviator's primary way to survive - and win.

No breakthroughs were made in hiding helicopters on the ground – although Lieutenant General Robert R. Williams made the tongue-in-cheek suggestion that choppers be rolled over and allowed to screw themselves into the earth.

The cumulative impact of these material activities contributed to some significant secondary effects on the development of Army Aviation:

- The costs of helicopters and their accessories escalated sharply.
- The number of aircraft dropped as fewer, but more capable, helicopters replaced older systems.
- Support structure became heavier and more sophisticated as test equipment and special tools became more complex.
- A trend of centralization and consolidation of helicopters in larger units culminated in the decision near the decade's end to consolidate divisional aircraft in an aviation brigade.

Personnel Issues

Turning now to the aviation people situation, the Army's warrant officer aviator program continued to be a great success although there was a widespread perception that flight pay was inequitable and inadequate. The quality of the enlisted aviation force maintained a high level in spite of turbulence caused by changing MOS designations and the strains of very austere peacetime manning. However, a series of personnel actions taken by Congress, OSD, and DA during the 1970s had a substantial cumulative impact on officer aviators.

Some of these key actions were:

- A large Reduction in Force (RIF) of captains in 1973 impacted very heavily aviators.
- Congress and OSD began to micromanage pilot utilization and training aggressively. Their basic approach was a pilot is a pilot is a pilot. Policies often did not recognize that training and career development needs of Army aviator officers (building company and battalion teams and integrating them in the combined arms force) were different from their Air Force and Navy counterparts.
- In 1974, Congress established the "gate" system for aviator pay, which placed high value on cockpit utilization of aviators but little value on aviator assignments to teach themselves and the Army at large how to get maximum combat effectiveness for expensive aviation units.
- In the late 1970s, as a means for compensating for a severe aviator shortage, the Army announced policies of differing branch schooling, curtailing "ground" assignments, and assigning majors to captain aviation posts, thus denying many aviators timely assignments to improve their value to the Army.
- At the start of the decade, the Army

Chief of Staff (General Westmoreland) was an aviator. In 1978, the major commanders of the Army troop units were aviators (Europe – General Blanchard; Korea – General Vassey; CONUS, Hawaii, Alaska, Panama – me). At the same time, the commander of U.S. Readiness Command was an aviator – General Hennessey.

In a 180 degree policy turn, the Army – which in 1970 had sent selected colonels and generals to flight school – by 1980 had eliminated field grade and general officer flight training programs and discouraged colonels and generals who were aviators from using their flying skills unless they were assigned to a specific aviation slot.

- During the decade, Army officer personnel management became increasingly centralized and bureaucratic. Career "specialties" were adopted (personnel, operations, etc.) which, together with basic branch assignments, would be used to guide the development of expertise through repetitive assignments and training. Initially, aviation was neither a specialty nor branch. Later, Specialty Codes were prescribed for aviators.
- In 1979, the Army announced new

- aviator career patterns and directed that 85% of officer school classes would be comprised of second lieutenants directly from their branch basic courses; a change from earlier policy in which lieutenants were required to have two years service before entering flight training. The other 15% of the class could be filled with officers with less than five years of commissioned service.
- The various branches specified in detail which company grade officers must do to become "branch qualified." But their branch career patterns did not allow time for company grade aviators to undergo flight training and jump through the designated branch hoops to become "real" artillerymen, infantrymen, tankers, etc. The result was that at Fort Sill, Oklahoma, where Army Aviation was born, it was understood by young officers that it could no longer be possible to be qualified artillerymen and also an aviator. Parallel perceptions were shared by lieutenants at the other combat arms schools.
- Comments by some generals and some senior aviators that modern Army aircraft were becoming so complex that officer aviators needed to

spend full time on technical aviation matters blurred the distinction between officer and warrant officer aviators, and left unanswered the question of how aviation leaders would learn to integrate aviation capabilities into the ground battle. Such comments further confused aviators as to what the Army expected of them.

The net result was a growing crisis of confusion and concern among officer aviators. Personnel policies were driving the officer aviator out of the Army mainstream.

What to do about this crisis would be a major challenge as the fifth decade of Army Aviation began.

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Wreaths Across America Supports the AAAA Scholarship Program

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

ach December, on National Wreaths Across America Day, volunteers participate in wreathlaying at Arlington National Cemetery and more than 2,100 locations in all 50 states, at sea and abroad.

The mission of Wreaths Across America is to Remember, Honor and Teach.

For 2022, the Wreath Across America theme is "Find a Way to Serve." This is who we are as an Aviation community because all members of AAAA have and continue to serve - professionally and personally.

The Scholarship Foundation's Wreaths Across America fund raising campaign is successful because of each one of you, I urge you to participate in this campaign. Sponsoring a wreath for \$15.00 honors a veteran and supports scholarships for AAAA members and family members.

The AAAA Scholarship Foundation will receive \$5.00 for every wreath sponsored through the AAAA website https://wreathsacrossamerica.org/pages/ 160022. In addition, my husband, Chuck, and I will match the first \$1,000 raised through Wreaths Across America for the AAAA Scholarship Fund, as will BG (Ret.) Mike Flowers and Mr. Tommy Marks - thank you, Mike and Tommy!

This year on December 17th, our volunteers will take the wreath you sponsor, recite the veterans name and place it by their headstone. Please help us start the process.

Henry Ford said, "...Coming together is the beginning, Keeping together is progress, Working together is success."



Come together and make our campaign a huge success by sponsoring a wreath today at https://wreathsacrossamerica. org/pages/160022.

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





Thank You to Our Scholarship Fund Donors



AAAA recognizes the generosity of the following individuals, chapters and organizations that have donated to the Scholarship Foundation, Inc. from September 2021 through September 2022. The list includes donations received for all scholarships, as well as the General Fund which provides funding to enable the chapter, corporate, heritage and individual matching fund programs as well as national grants. Every penny donated to the Scholarship Foundation goes directly towards scholarships as a result of the Army Aviation Association of America subsidizing all administrative costs (minus investment brokerage fees).

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AAAA Chapter Affairs By LTC (Ret.) Jan Drabczuk

I appreciate the support from CPT Samuel Slater, Chapter President, for authoring and sharing this information to our membership.

AAAA's Most Recent Chapter

Vermont's first AAAA Chapter was recently started at the beginning of this calendar year. Affectionately known as the Green Mountain Boys, they have deep history that is connected to Ethan Allen and the Green Mountain Boys dating back to the 1760s.

Many of the Green Mountain Boys went on to serve in the American Revolutionary War. With Ethan Allen at the helm, they captured Fort Ticonderoga at Lake Champlain on May 10, 1775, and played major roles in the battles at Hubbardton and Bennington. The Green Mountain Boys continues to this day as the informal name of the Vermont National Guard. Vermont is currently home to C Co., 3-126th AVN (AA); Det. 2, C Co., 1-224th AVN (SS); Det. 1, D Co. 1-224th AVN (AA); and Det. 2, B Co., 245th AVN (OSA).

The Green Mountain Boys Chapter was established to directly support the state's small Aviation community and family. This is accomplished through networking with local industry partners in the Green Mountain State. Providing awards and recognition for their service members, family members and supporters. Establishing the birth of the Chapter's first scholarship fund. But most importantly, a way for the Chapter to all stay connected while they continue to serve as well as staying connected well past retirement.

The Chapter currently has roughly 70 members with a healthy mix of currently serving aviators, retirees, as well as industry partners such as BETA Technologies, Liquid Measurement Systems, Omni Medical Systems, Concepts NREC, and they look forward to future growth. The Chapter intends to focus this year on increasing its membership and outreach with the local businesses and supporters. With many deployments on the horizon, they hope to increase the Chapters budget and

structure to best support their Soldiers and Families in the next year.

Chapter Activities

The Green Mountain Boys Chapter organized its activities into three main priorities this inaugural year. First, building their Scholarship fund; Second, collaborating with local industry members; Third, creating a strong support network for their members and families leading into a large deployment year.

Their first, and largest event of the year, is their scholarship golf tournament which they hosted at the end of August. This is a large undertaking in the first year of the Chapter, but many members stepped up to assist with getting this off the ground. A large shout out to the Minuteman Chapter for providing them with templates and materials to get them vectored on course! Their goal is to be able to award two to three scholarships next year, and to continue to do so year after year.

Second, they are growing their outreach program with a newly appointed "VP of Industry Affairs". Having worked in the Aviation industry for many years, the Chapter VP is leveraging his ability to connect with other businesses to see how they can best support each other's goals. Additionally, they look to invite current industry partners to their quarterly meetings as guest speakers to give current serving members insight into other opportunities in the civilian sector within the State.

Third, and most importantly, building a support network for all members,



and non-members, within their small community. Deployments are tough on everyone, there is no doubt about that. The Chapter's goal is to continue to support their ever-growing family with future events throughout the deployment years with fun social events like a dinner cruise on Lake Champlain, skiing trips to Stowe, or just an informal get together at their flight facility to help take the stress off the family members while their loved ones are overseas.

Welcome to Our AAAA Family

The Green Mountain Boys Chapter is proud to serve Soldiers, Army Aviation and the community throughout the great State of Vermont. The Chapter welcomes all current, future, and retired members of the active, reserve, and retired Army Aviation community as well as industry employees working on Aviation products within the area. We are glad to have our newest Chapter recognized. For more information on Vermont's Green Mountain Boys Chapter please contact the Chapter President at samuel.t.slater2. mil@army.mil.

Feel free to contact me if you need help for your Chapter, Executive Board support, would like your Chapter featured in the AAAA magazine or to obtain clarification of National procedures. I can be reached at *jan.drabczuk@quad-a.org*. I look forward to working with you and supporting AAAA.

LTC (Ret.) Jan S. Drabczuk AAAA VP for Chapter Affairs

AAAA

AAAA Chapter News

Rising Sun Chapter Enjoys Festival



Rising Sun chapter president, LTC Courtney Kiluk, and VP Awards, CSM Marcell Scott, celebrate in regional garb during the Bon Odori festival Aug. 6, 2022 at Camp Zama, Japan. The Bon Odori festival is a Japanese Buddhist custom in which they honor the spirits of their ancestors. It is a summer festival, with singing and dancing to the energetic beat of drums, gongs, and the sweet melody of flutes. It has been celebrated in Japan for more than 500 years.

Order of St. Michael Inductees Air Assault Chapter



With his wife by his side, Mr. Robert D. Walker is inducted into the Gold Honorable Order of St. Michael by AAAA National President, MG (Ret.) Tim Crosby (2nd from left), chapter president, COL (Ret.) Hawk Ruth (left) and COL Roger Waleski, commander of the 160th Special Operations Aviation Regiment (Airborne) at the regiment headquarters at Ft. Campbell, KY. Walker was recognized for his more than 40 years of service to Army Aviation culminating as the deputy director of the U.S. Army Special Operations Aviation Command Systems Integration Management Office (SIMO).

Want to change your AAAA Chapter Affiliation? EASY! Contact us at quad-a.org

Aviation Center Chapter



MAJ (Ret.) Victor Estes is inducted into the Bronze Honorable Order of St. Michael by LTC Audrey Boenker, Deputy Director, Medical Evacuation Concepts and Capabilities Directorate, Ft. Rucker, AL during a May 23, 2022 ceremony at Ft. Rucker. Estes served as a research pilot and detachment commander for the U.S. Army Aeromedical Research Laboratory. After retirement he continued to serve in the research operations group at the lab..



COL Barton L. Johnke is inducted into the Silver Honorable Order of St. Michael by COL Joshua P. Higgins, director of the Aviation Capability Development Integration Directorate, during a July 15, 2022 ceremony at Ft. Rucker, AL. Johnke was recognized for his impactful accomplishments over his 25 year career, culminating as the Aviation Capability Manager-Lift.



His wife, **Jennifer Johnke** was also inducted into the Honorable Order of Our Lady of Loreto for her support to Army Aviation Soldiers and Families throughout her husband's career. Celebrating with the Johnkes are (left to right) Higgins; COL Johnke; Jennifer Johnke; Walker Johnke; Lydia Johnke; Ella Johnke, and Mrs. Laina Goodson.



On July 8, 2022 COL Ross Nelson, Commandant, USA Warrant Officer Career College, Fort Rucker, AL, inducted **CW3 Charles Robertson,** USAWOCC Military History Instructor and WOCS Mentor, into the Silver Honorable Order of St. Michael at a ceremony at the Aviator Landing on Ft. Rucker. Robertson has been instrumental in the development of tactics and the WOCS instructional development while being a CH47F Flight Instructor and Survivability Officer. He departed the USA WOCC to join 16th Combat Aviation Brigade.

Central Florida Chapter



LTC (Ret.) William McElwee was inducted into the Bronze Honorable Order of St. Michael at the AAAA Central Florida Chapter Annual Golf Tournament on June 17, 2022 at the Shingle Creek Golf Club, Orlando. McElwee is a Vietnam Veteran who served both in the Active Army and full time in the GA National Guard. He is a Master Aviator with over 6,000 military flight hours. With McElwee are (left to right): Chris Wanitshka, chapter VP; Mike Younce, Chapter President; McElwee; and LTC (Ret.) Jan Drabczuk, AAAA National VP Chapters.

Land of Lincoln Chapter



Mrs. Michelle A. Hammon, spouse of CW5 David W. Hammon (right), former OSMs continued on next page



OSMs Continued

Command Chief Warrant Officer of the State of Nebraska, is inducted into the Honorable Order of Our Lady of Loreto by USAF Maj. Gen. Richard Neely (not pictured) and chapter president, COL (Ret.) Lonnie Jansen (left), at Camp Lincoln, IL. Mrs. Hammon is recognized for her untiring support to the aviation community, soldiers, and families while serving as an NCO, Officer, and spouse throughout her husband's career spanning more than 42 years.

Tennessee Valley Chapter



LTG L. Neil Thurgood, former Director of Hypersonics, Directed Energy, Space and Rapid Acquisition, is inducted into the Gold Honorable Order of St. Michael by past AAAA National President, BG (Ret.) EJ Sinclair during a dinner at The Summit, Redstone Arsenal, AL on Aug. 22, 2022. Thurgood, a Senior Army Aviator, was recognized for his more than 36 years of dedicated service to Army Aviation.



MAJ Nathan Klein, assistant product manager for the Limited Interim Missile Warning System LIMWS), is inducted into the Bronze Honorable Order of St. Michael by CW3 (Ret.) Robert Seybold (left), deputy product manager for Missile Warning Systems, and LTC Sean Quinn, product manager for Missile Warning Systems, PM ASE on Aug. 4, 2022 at the Cooperative Brewing Company, Huntsville, AL. Klein was recognized for being instrumental in fielding the LIMWS to Army Aviation as he moves to his next assignment as an experimental test pilot with TDD-A at Joint Base Langley-Eustis, VA.



LTC(P) Joseph S. Minor is inducted into the Bronze Honorable Order of St. Michael by chapter president, Mr. Gary Nenninger, during a July 8, 2022 ceremony at Redstone Arsenal, AL. Minor was recognized for his accomplishments while serving as the director of the U.S. Army Redstone Test Center Aviation Flight Test Directorate. He remains at Redstone and his new assignment as the Program Manager, Fixed Wing Aircraft, PEO Aviation.



MAJ Joshua A. Redmond is inducted into the Bronze Honorable Order of St. Michael by Mr. Tim Vinson, Lakota Product Manager, during a July 20, 2022 ceremony in Huntsville, AL. Redmond was recognized for his work as the Deputy Product Manager on the occasion of his change of duty to Deputy Product Manager in the Apache Attack Helicopter project office at Redstone.



CW4 (Ret.) Charles R. Ridenour is inducted into the Silver Honorable Order of St. Michael by Chief Warrant Officer of the Aviation Branch, CW5 Michael L. Lewis, Jr. during a June 18, 2022 ceremony at the Army Aviation Museum, Ft. Rucker, AL. Ridenour

was recognized as he retires for more than 51 years of Aviation service dedicated to attack helicopter systems and Soldiers; the acknowledged "Father of modern AH-64 Gunnery," and architect of Combined Arms Training Strategy (CATS) – a legend.

Washington Potomac Chapter



APTER PHOTO BY OPT

LTC James Bell, deputy commander of The Army Aviation Brigade, and Ms. Judith A. Damico, TAAB director of Human Resources, are inducted into the Honorable Order of St. Michael by MG Allen M. Pepin, commanding general of the U.S. Army Military District of Washington during a Sep. 7, 2022 ceremony at Davison AAF, Ft. Belvoir, VA. Bell is a Bronze inductee and Damico a Knight of the Order. Congratulating them are (left to right): CW5 Scott Nalley, CSM Gregory A. Galassi, COL Winfield Adkins, Mr. Dan Curry, Bell, Damico, Pepin, and CSM Franklin Velez.



Please contribute to the AAAASFI through the Combined Federal Campaign (CFC) program.

The AAAA Scholarship Foundation, Inc. provides a variety of annual scholarships to hundreds of students seeking higher education: Soldiers, NCOs, warrant and commissioned officers and to their family members. Your tax-deductible donation helps make a difference to those looking to further their educational opportunities.

Contribute to #10516.

See your unit CFC representative for details on participating in the 2022 CFC Program.



The AAAA Scholarship Foundation, Inc.

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AAAA Membership Update By CW4 Becki Chambers

The Membership Corner

f you have logged onto the AAAA website recently, you might have noticed 2 new additions to the National Executive Group. Cole Hedden is the new VP of Industry Affairs, and Ray Sellers is the new VP of Civilian Affairs. I asked them to write a brief note about their position:





Cole Hedden

Ray Sellers

Cole Hedden was tasked with focusing on our Industry partners and individual Industry members to ensure they are getting the best value possible from their membership in AAAA. Since that time, Cole has spent most of his time visiting with Industry members and developing plans and strategies to enhance the value of membership for this specific group. In addition, he works to ensure an Industry voice during AAAA National Executive Group (NEG) meetings. He is also working with the full-time staff at AAAA to identify methods for tracking trends and the health of our Industry members.

Cole has started several initiatives during this time. They include an effort to enhance the voice of Industry by creating some type of Industry advisory group with the goal of providing Industry input to the AAAA President and the NEG. Another area of focus is working with US Army Aviation to develop a process to get more frequent status and updates from various Army Aviation Program Managers.

Cole brings a wealth of experience to this new position. He is a West Point graduate and started his career as an Army Aviator at Ft. Campbell where he flew Cobras and Kiowa Warriors with the 229th Attack Helicopter Battalion and then Black Hawks with TF-160. After leaving active duty, he stayed in the aerospace industry working at Tier 1 & 2 players for over 35 years. He has held positions in Program Management, Business Development and Strategy from the Division level to Corporate. He is experienced in M&A and has been involved with or overseen R&D efforts through much of his career. He has an Executive MBA from the Kellogg School at Northwestern. Cole has two grown daughters and currently resides in Asheville with his wife Carole, who all work in the aerospace industry.

Ray Sellers is the new VP of Civilian Affairs. Although he retired about nine months ago, Ray spent the previous 33 years as a Department of the Army Civilian (or DAC). He started his Army Aviation career supporting the Joint Tactical UAV Office in Huntsville AL. From there, Ray spent a few years supporting the Missiles and Space community but worked his way back to Aviation at the first opportunity! Luckily, he found a home in the Cargo Helicopters Project Office as a Test Engineer working in the Improved Cargo Helicopters (CH-47F) Product Office for a new LTC named Tim Crosby. After his tour as Deputy PM in Cargo Helicopters, Ray served on the PEO Aviation staff as Chief of Staff and Lead Engineer. These assignments allowed him to work with every program manager from 2009 until he retired as the Deputy PM for the Future Attack Reconnaissance Office in December 2021. During this time, Ray gained enormous respect for the dedication and expertise exhibited by our Army Civilians.

Ray spent most of his Army career as a supervisor where he understood his primary responsibility was to support the Army Civilians working for him so that they could support the Soldiers in the field. His job was to give the workforce the tools they needed to design, develop, and deliver the best weapon systems in the world. During this time, Ray also served on the local AAAA Tennessee Valley Chapter Board as VP, for Government Affairs. Once again, Ray's responsibility was to support, represent and promote our DA Civilian workforce. Ray looks forward to continued service to our Army Civilians, and he encourages your feedback on how AAAA can better support our Civilian membership.

Please join me in welcoming them to the team.

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

> CW4 Becki Chambers AAAA Vice President for Membership





New AAAA Life Members

Aloha Chapter SFC Miguel Valdez Osuna SSG James A. Cottrell Aviation Center Chapter COL Nicole C. Powell-Dunford CPT Christine Marie Hogan CW4 Demetrio Castro Central Florida Chapter MAJ Lester Fullen Colonial Virginia Chapter Ryan Boehringer Flying Gator Chapter Capt. Ralph Artigliere Green Mountain Boys Chapter MAJ James Lewandowski Grizzly Chapter SGT Pedro Castro Idaho Snake River Chapter CPT Thomas J. Westall CW2 Oceana R. Chamberlin Iowa Chapter CPT Danielle Hadaway CW3 Robert Ghabel MAJ Gary Carter Keystone Chapter CSM Jason Zahurak MSG Justin Shaffer MacArthur Chapter SFC Gerald E. Babor, Ret. Magnolia Chapter COL Bradley Howe Mid-Atlantic Chapter COL Kent D. Menser, Ret. Morning Calm Chapter LTC Nathanal J. Patton North Star Chapter CPT Olukayode Oni North Texas Chapter MAJ Josh Daneault Old Tucson Chapter COL Tom Davis Prairie Soldier Chapter CW3 Justin Chadwick Jay Wilhelm Rio Grande Chapter SFC Keith Lovely Savannah Chapter CW3 Ian Foote LTC Frederick Clapp Tennessee Valley Chapter James Hamilton Michael E. Bulklev Utah Chapter CW4 Jonathan Lee Voodoo Chapter CAPT William Bennett Washington-Potomac Chapter COL Robert Pearce LTC James M. Bell MG Allan M. Pepin Wright Brothers Chapter James E. Smith

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CW3 James Thomas

Aloha Chapter PFC Bryson A. Faafiti-Oviedo PV2 Ethan K. Okumura SSG David Jonathan Ordaz SFC Miguel Valdez Osuna Arizona Chapter Christian Coronel Geno Forman Kristv Frazier **Brett Leonard** Colton Marchesseault SSG Jean Montes Dan Mullholand Ryan Olson Carolyn Pattison Bill Ross Mark Trusty Derek Wallace Aviation Center Chapter WO1 Steve D. Adami 1LT Douglas R. Aldrich WO1 Clayton M. Anderson 2LT Coleman P. Anderson WO1 Andrew M. Andrusko WO1 John P. Bailey WO1 Jeremy K. Ballard 2LT Emanuel Barnes 2LT Jeremiah L. Borrajo 2LT Zach P. Breunig 2LT Orian L. Brown WO1 Jordan K. Brunner 2LT Matthew T. Cannon 2LT Britney K. Carter WO1 Rainier M. Castaneda CW4 Demetrio Castro WO1 David E Chandler WO1 Christopher R. Conner WO1 Hunter W. Conway 2LT Seth C. Coute 2LT Kai J. Covey WO1 Curtis N. Croft W01 James L. Davis 2LT Robert T. Deming WO1 Erika E. Dent WO1 Dillon G. Ennis WO1 Randall J. Ferrara WO1 Travis W. Fields WO1 Brett D. Forman WO1 Courtland R. Friend 2LT Zachary O. Gandy 2LT Kellie B. Garrity WO1 Nathan S. Gootee WO1 Trevor C. Greene WO1 Christopher Gruendner WO1 Darius S. Ham WO1 Robert J. Harris PV2 Braydon Cole Hatcher W01 James R. Hensorling CPT Christine Marie Hogan 2LT Jessica G. Hole 2LT Seth T. Holloway 2LT Jackson J. Hopkins 2LT Zachariah Hovle WO1 Joseph A. Intriago WO1 Vasilii Jenescu 2LT Cole A. Jones 2LT Lorenz P. Junio WO1 Robert L. Keen WO1 Mayule T. Kelly 2LT Caleb G. Kerr WO1 Alissa Kupka WO1 Stacy R. Lawrence 2LT Cameron M. Lehr 2LT Cameron M. Letourneau WO1 Dylan J. Light 2LT Chase P. Lundberg WO1 Kelsey N. MacIsaac 2LT Madison K. Malla

2LT Travis J. Martini

W01 Dylan R. Marx WO1 Jákob G. Matney W01 Sean R. Matson 2LT Samantha N. Mayo WO1 Patrick A. McDoonald LT Daniel Melchers 2LT Justin D. Mettling WO1 Dustin A. Monroe WO1 Anthony J. Montgomery WO1 Michael J. Munoz WO1 William A. Murray 2LT Jordan M. Ness WO1 Justin D. Newman WO1 Allen J. Nunez WO1 Sean G. O'Donnell WO1 Beverly Patrick WO1 Jesse R. Pavel WO1 Chase A. Peters 2LT Nathaniel L. Porterfield W01 Taj Wayne K. Pottinger WO1 William D. Pruitt WO1 Swaminathan Ramalingam 2LT Mackenzie R. Reed Courtney M. Rich 2LT Olivia R. Richan W01 Austin W. Rivera WO1 Austin M. Roberts 2LT Derrick O. Robertson 2LT Nicole D. Rocha 2LT Nathan J. Rupprecht **CPT Arturo Salas** W01 Jeremy M. Shadron W01 Kevin A. Sims WO1 Benjamin L. Smith WO1 Matthew V. Staskal 2LT Grant T. Stewart WO1 Anjan N. Sullimada 1LT Kesuma M. Suprobo 2LT Daniel A. Teed W01 Chase D. Terry WO1 Brady J. Thompson WO1 Abe A. Torres WO1 Nicholas C. Trujillo WO1 Kyle Trumble W01 Trevor J. Tucker 1LT Rachel L. Vander Laan W01 Zachariah S. Vanderleest 2LT Andrew R. Vitale 2LT Timothy P. Wallace 2LT Jordan T. Washington WO1 Marcus D. Wilkerson WO1 Thomas C. Willis W01 Merril R. Wilson WO1 Zane A. Wilson 2LT Shalvnn N. Woolsev W01 Christopher J. Ziolkowski Badger Chapter April Haferkorn Jim Jackalone Mary Loomis PV2 John C. McHugh PV2 Jose Ocegueda-Jones Jr Tony Sapyta Battle Born Chapter
A1C Robert B. Spangler Bavarian Chapter MAJ Lindsay Heisler CPT Christina Ramos Big Sky Chapter Jessica Higgins Bluegrass Chapter CW3 Jeremy Cossel
Central Florida Chapter Sam Blakley John Brooks Benjamin Corcoran Richard Detcher PVT Ryan P. Dobbs

David Dwyer MAJ Lest Fullen James Giffrow Dace Heathman PFC Jerrod K. Hobbs Holly James Corey Mason Jesse Matos Chadd Meister Justin Nissen Nick Rice Steven Rosenwasser Raymond Shafer Sarah Steinman Christopher Sullivan William Travers Colonial Virginia Chapter Ryan Boehringer

Connecticut Chapter Mamoun Bayyari WO1 Laura A. Ciavarro Steve Green John Lugbauer Al Moreno Mrs. Samantha Redfield MSG Christopher J. Richards Mrs. Joanna Ross PV2 Matthew T. Thomas Corpus Christi Chapter SPC Kenneth Baucom Joshua M. Rowe Cowboy Chapter SGT Travis J. Repella Delaware Valley Chapter PVT Flynn M. Coffin PFC Javden T. Kozloski Desert Oasis Chapter CW4 Daniel Austin CW4 William Joseph Johnson Flying Gator Chapter Capt. Ralph Artigliere Frontier Army Chapter Jamie Piper Gold Standard Chapter Carvn Dickinson CW5 August Mauer CW3 Brett A. Milton Great Lakes Chapter SFC Ty C.Bierman-Clinton Alex P. Webster Greater Atlanta Chapter Nathaniel Cooley SPC Brielle Keena Ezna W01 Enrique J. Granados Jacob Hanson W01 Charles L. Marcum Lee Simonetta Doug White Green Mountain Boys Chapter David Baczewski Derek Davis Thomas Hryckiewicz Mike Jacquinto PV2 MAx C. Wingensiefen Griffin Chapter LTC Adam T. Bennett WO1 Robert L. Davis, Jr CPT Alexander V. Kelsall SGT Matthew A. Koenig SSG Zackary Myers 1LT Nathan R. Schrader SFC Tyler L. Vermillion SGT Edelric Whack CW4 Scott C. Wilhite Grizzly Chapter SGT Pedro Castro Idaho Snake River Chapter Dale Atkins CW2 Oceana R. Chamberlin

WO1 Daniel W. Putnam Tom Wood Iowa Chapter W01 Travis P. Becker MAJ Gary Carter CW3 Robert Ghabel CPT Danielle Hadaway Jim Roberts Iron Mike Chapter WO1 Alexander De Leon Diaz MAJ Lisa M. Klekowski PFC Myles Devante Roam Jack H. Dibrell/Alamo Chapter SPC Josue Manuel Bueno SGT Daniel August Koehler SSG Justin Saiz Jaime Santiago SPC Daniel Torres Jimmy Doolittle Chapter W01 Trevin I. Blair Lawrence L. Lewis Kevstone Chapter SGT Chance H. Cain MSG Justin Shaffer CSM Jason Zahurak Lindbergh Chapter Jonathan Bland Erin Oller Chris Ward Lonestar Chapter SSG Sean Boulet MacArthur Chapter Donald Brockel Christian Chandler Barbara Dworkin Scott Havford Napoleon Hooks Kenneth Kline PV2 Jordan I. Lannerd Allen Loving Douglas Petito Chris Pickett Evan Schulze Herman Shanian Jeremy Sohan Brian Streem Magnolia Chapter PFC Shawn D. Gurley COL Bradley Howe Mike McDonald Mid-Atlantic Chapter Kevin Leonard Minuteman Chapter Michael J. Ball WO1 Alex R. Buckley Michael Davis Evan Elkington Nicholas Fisher CW3 Isaac Gomez Jr Jeff Hanson Shannon Tremblay Gregory Wise Morning Calm Chapter WO1 Joseph Askwith CW2 Tyler Lee

Mount Rainier Chapter WO1 Nicholas M. Deweese WO1 Caleb S. Myers Cassy Randolph North Country Chapter CW2 Dustin Kelley North Star Chapter CW5 Brent David Jensen CPT Olukayode Oni North Texas Chapter COL Sonny Blinkinsop Rachel Brown New Members continued on page 69

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AAAA Family Forum By Judy Konitzer

Looking Beyond Covid-19 and Reopening America's Schools By Judy Konitzer



t goes without saying that our nation's educational system faced unprecedented challenges due to Covid with more than 1.5 billion children affected by school closings.

It wiped away many ordinary routines producing major disruptions in every possible way and rearranged the lives of students and families around the world. It is unfortunate, but the ramifications of this educational disruption will more than likely be felt for many years to come.

Parents with school aged children are probably exhausted right now with having to navigate uncharted territory. There is conflicting information and continually changing decisions from professional policymakers, medical professionals, and school staffs regarding the resurgence of Covid and its variants, the need for vaccines and boosters, the need for wearing masks in some but not all areas, and mental health concerns.

Schools have always been viewed as a critical component in society because they have provided much more than education, for example, services like daily meals, mental health, medical screenings, and socialization. Along with broad academic challenges, these especially affected students who were the most vulnerable before the crisis

occurred.

Reopening schools now restores many of these services and allows for students to participate in extracurricular activities which have been proven to strengthen academic achievement and statistically improve grades and SAT and ACT scores in the long run. By being members of school clubs, athletic teams, theatre and music groups, bands, science fairs etc. students can develop the social skills they will need as adults. And by learning time management, perseverance, and collaboration especially with teamwork of any kind, these help to provide a creative outlook, make friends, form bonds over shared projects, and develop the discipline to achieve their long-term goals. As a side note, many colleges and universities allow a weight of 30% to their applications for extracurricular activities. This is because many candidates have great grades and test scores, but extracurricular activities give an application its personality.

I recently read an editorial in my local newspaper from Dr. Dana Harris, a retired administrator, with some help-



As part of a Team Building activity, Soldiers training from Fort Hood assembled and donated 50 bicycles to Carson Middle School students at Fort Carson, Colorado, August 25, 2022. Each bike held a handwritten note from the Soldier who put it together.

ful advice for parents. She advised: "Be proactive in your child's education. You can do this by frequenting the school's webpage and social media for updated information. Stay in touch with your child's teachers and other educators in their lives. Thank them for what they are doing because they are working incredibly hard. And most importantly read any and all notices that may come home with your child. The changes being made may be temporary, but they are being implemented on their behalf." It is because this 2022-23 school year is going to be interesting as well as challenging and the school staff is going to have to make decisions based on ever changing realities.

By now we are seeing how children are



AAAA Salutes the Following Departed...

Mr. Charles E. Herschbach Jr. Deceased 1/16/2022

COL Louis R. Jones Jr., Ret. Deceased 9/19/2022 AAAA Life Member

adjusting to their returning to school with many having to adapt to this new norm. Some may also be having emotional issues as they try to navigate through this. During this time, it is important for parents to manage their own emotions and remain calm. They would do well to listen to their children's concerns, speak kindly, and always be reassuring. As with any change, if parents are prepared, they can be assured of a safe, productive, and successful school year for their children.

Lastly many of our readers may have seen this advice posted on Facebook. If not, it is worth your consideration and a wonderful way to work hand in hand with your child's teacher.

"If your family is experiencing difficulties at home, I would like to provide additional support at school. I understand that you are not always able to share details and that's okay. If your child is coming to school after a difficult night, morning, or weekend, please text me "Handle with Care." Nothing else will be said or asked. This will let me know that your child may need extra time, patience or help during the day."

Hopefully your child's teacher is on board with this advice as it could prove to be the difference between making a negative experience a more positive one.

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

New AAAA Members Continued

Thomas Carlisle Ryan Darrow Dan Davis Sebastien Delmaire Tena Eubanks Mario Gonzales Matt Hembree Nick MacKaron David Mohon Eamon Perry .lim Quinn Vaishal Shah MAJ Howard S. Stanfield Ken Triplett Oregon Trail Chapter PFC Anthony Sean Pieper Phillip A. Yager Phantom Corps Chapter SSG Matthew Behuniak CW2 David Calderon SSG Matthew Cooney PV2 Haley R. Mcintoch MAJ Jared Michael Wiggins Pikes Peak Chapter WO1 Drew B. Krieg PFC Chance W. Pebley Prairie Soldier Chapter CW3 Justin Chadwick PFC Kerry J. Lodl CAPT Leonard W. Whiteing Jav Wilhelm Ragin' Cajun Chapter Ginger McNeely Rio Grande Chapter 1LT Joshua Cox Rising Sun Chapter Mrs. Tara M. Rojas Savannah Chapter LTC Frederick Clapp PFC Barrett T. Miller Southern California Chapter Stephane Duchesne PFC Chanho Lee Brooke Milligan Kevin Thompson Lou Voat Jennie Wright Stonewall Jackson Chapter CPT Warren E. Allen, III Jessica Guest Joe Guest Mrs. Chau Nguyen Tarheel Chapter MAJ Briana McFarland Tennessee Valley Chapter CW4 Samuel Lee Bennett, Ret. James W. Coquat Mandie Dillard Joe Dinoto Robert J. Dudley Crystal Eatmon Donald Gardner Robert Hamilton Bruce Hardy Nick Hawke CW5 Addonis Hawkins Scott Havmaker Jeff Helton Clayton Hinchman Tyler Jones William Jones Melanie Kelley David King

Steve McCool Alisha Merritt Clarence Morris Layton Murphy Gary Owen Trenton Poff Jacob Pohly Stephanie B. Rauseo Doug Rogers 1SG James Starkey Steve Stelk Brian Watson Ryan Webb Chance Wesley Marie Wilson-Noack Thunder Mountain Chapter SSG Philip Alvarado Thunderbird Chapter SPC Sebastian B. Arrasmith SGT Keelan B. Barr CW2 Carey M. Bennett WO1 Kody B. Bickerstaff SPC Christian A. Brookman SPC Brandon W. Cejka SGT Zackery W. Cooksey SFC Jolene N. Davis SGT Tad A. Deffenbaugh 1LT Johnny P. Dow CPL Kyle A. Elliott SGT Zachary T. Fike SSG Steven A. Fitzgerald SPC Colton J. Fletcher SGT Javier A. Flores SPC Taylor B. Fretz SGT Benjamin F. Holybee SPC Cori E. Hunt SGT Shane W. Kimzey SPC Collin J. Long SGT Nate M. Lowber SPC Courtney L. Malone PFC Bethany Ann McGuirre 2LT Walker R. Milligan CPT Justin L. Parks SPC Samuel O. Patton SGT Nicholas L. Replogle SGT Randell K. Sessions SPC Katlyn Shelton SPC Jeffery L. Smith CW3 Zachariah M. Smith SGT Tremaine E. Thomas SGT Caitlyn J. Tuzicka SPC Evan Verdugo SGT Christopher L. Watson SGT Travis D. Williams SMA Amiah J. Wolford SPC Sandie R. Young Utah Chapter SPC Trace R. Hadley PV2 Jaden D. Keyte CW4 Jonathan Lee PFC Lawrence D. Whitney Voodoo Chapter CAPT William Bennett SGT Jaimeal Wade Omar Harris SSG Timothy Roberson PFC Judah D. Wolf Washington-Potomac Chapter Curtis Brown Addie Burke COL David Doran SGT Denis A. Lukoianov SGT Kevin Riley Morgan COL Robert Pearce Kevin Rhodes Kathrynn Seidler Ashley Simonds

Wright Brothers Chapter David Cordova Mrs. Sarah Giardina Erik Johnson Stan Lyons Caltha Seymour Nansheng Tang Mike Williams Yellowhammer Chapter WO1 Jerry J. Huggins No Chapter Affiliation Carlos Aburto Kyle Anderson A1C Herland Antezana PV2 Leslyann A. Bailey Kerry Bauer Denis Boucher PFC Jared Buchele CW2 James Cameron SPC Anselmo Castillo 1LT Jacob Chapman Sean Cogan Charles Cohen PFC Jessay Adrian Colon CPT Joshua R. Corey 1LT Jaret Dasenbrock SGT Andre Luiz Dos Santos CW3 Brian Enderes SPC Casey M. Ferrara Devin Fitting CW3 Eric Flerchinger PFC Zachary D. Frankson Brendan J. Gilbert PFC Miguel Godinez PFC Colin I. Graefen Tom Guzman Andrew Hanson Brian Johnson CW2 Andrew J. Kraus Paul A. L'Ecuyer SGT Sangun Lee Mrs. Laura Leszek SPC Christian C. Longacre Nicholas Louis SGT Samuel Mattoso Jack Maze Douglas McCall Edward Meyers Frik Moratzka SSG Thomas Mort Feleni Moso Kirstin Orr SPC Alex Samuel Palaguachi Kelsey Payne PV2 Brady S. Peckinpaugh PVT Matthew F. Perdue Jason Pochert PFC Lucas Scott Puckett Scott M. Riggins CW3 Joseph Riley Rebecca Rood Jessica Schieve Christopher Schultz Adam Shepard Bill Smith James Spriet PFC Mason Scott Stark Jamie Sussman PFC Louise M. Sutton WO1 Brian Talley Samuel N. Tate PV2 Philip M. Turner WO1 Andrea Vasquez Ryan Williamson Troy Wise SGT Jiwon Yoon

Nancy Koger

Gisele F. Singleton



AAAA Legislative Report

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

Following the Money (Appropriations)

Let's take a look how our portfolio is sitting going into Appropriations conference which is expected after the elections.

Green- Program Funding Net Increase Red- Program Funding Net Decrease Yellow- Conference Item

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Program		HAC-D Mark	HAC-D Comment	SAC-D Mark	SAC- D Comment
Small UAS (SUAS)	\$10,598	\$10,598		\$10,598	
Apache Block 3 Reman	\$524,661	\$524,661		\$524,661	
Apache Block 3A Reman (AP)	\$169,218	\$169,218		\$169,218	
Blackhawk M Model (MYP)	\$650,406	\$923,406	(+) 10 Aircraft for National Guard	\$650,406	
Blackhawk M Model (AP)	\$68,147	\$68,147		\$68,147	
Blackhawk L & V Models	\$178,658	\$178,658		\$178,658	
Chinock	\$169,149	\$169,149		\$369,149	(+) 5 CH-47F Block 2 Awcraft
Chinook (AP)	\$18,749	\$18,749		518,749	
MQ-1 Gray Eagle	\$0	50		\$350,000	(+12) MQ-1C Extended Range for the National Guard
Gray Eagle Payload	\$57,700	\$57,700	(4 p. 14 p.	\$57,700	- 1 N. A181 L 1
Gray Eagle Mods2	\$13,038	\$143,038	(+) ELINT, Extended Range for MDO	\$18,038	(+) ELINT Upgrades
Multi Sensor ABN Recon	\$21,380	\$21,380	A STATE OF THE STA	\$21,380	
Apache Mods	\$85,840	\$85,840	Company of the Compan	\$85,840	
Chinook Meds	\$11,215	451,211	(+) DVE, Hybrid Ballastic Protection	\$22,419	 (-) Avionics updates insufficient budget justification (+) Degraded Visual Environment
EMARSS SEMA Mods	\$1,591	\$1,591		\$1,591	
Blackhawk Helicoptee Mods	\$21,346	\$21,346		129,346	(+) Litter Basket stabalization tech for search and rescue
Network and Mission Planning	\$44,526	\$44,526		\$41,49	(+) Aviation Mission Common Server SW App EC unjustified growth
COMMS, Nav Surveillance	\$72,387	\$72,387		\$72,387	
Aviation: Assured PNT	\$71,130	265/890	(-) PM cost excess	\$61,704	(-) EGI EAGLE-M B Kit SE/PM unputified growt
GATM Rellup	\$14,683	\$14,683		\$14,683	
ASE	\$167,927	\$167,927		\$167,927	
Survivability Countermeasures	\$6,622	\$6,662		5154	(-) ATIRCM divestinge optimization early to need
CMWS	\$107,112	\$107,112		3000.00	(·) LIMWS engineering services unjustified growth
CIRCM	\$288,209	5004300	(-) Unit Cost Increases	\$288,209	
Common Ground Equipment	\$20,823	\$20,823	C y can corre mercanes.	\$20,823	
Aircrew Integrated Systems	\$25,773	\$25,773		\$25,773	
Air Traffic Control	\$27,492	\$27,492		\$50,000	(-) DoD Advanced Automation System excess to need, Tactical Airspace Integration System unjusted
		-		row more	CONTRACTOR OF THE PROPERTY OF
			MENT TEST AND EVALUAT		
Program		HAC-D Mark		SAC-D Mark	
Future Vertical Lift Technology	569,348	174,348	(+) High strength functional composites	\$79,348	(+) Adaptive Flight Control tech, Digital Twin
Air Platform Applied Research	\$41,588	\$40,388	(+) High strength functional composites (+) Multi Drone, Multi Sensor ISR	\$41,588	(+) Adaptive Flight Control tech, Digital Twin
Air Platform Applied Research Air Platform Advanced Tech	\$41,588 \$17,946	\$46,588 \$17,946	(+) Multi Drene, Multi Sensor ISR	\$41,588 \$17,946	
Air Platform Applied Research	\$41,588	\$40,388		\$41,588	(*) Adaptive Fight Control tech, Digital Twin (*) Additive Manufacturing, DLC coatings for red phosphorous obscurants, Platform Digitization and maintenance, Streich broken carbon fiber, UAS für system enhancements
Air Platform Applied Research Air Platform Advanced Tech	\$41,588 \$17,946	\$46,588 \$17,946	(+) Multi Drone, Multi Sensor ISR (+) Autonomous configuration management and Aviation Records; data refinement for sustainment, FLEE TSPACE Management tool, FVI. Surface tolerant aftersives, individual blade and higher harmonic control, UH-	\$41,588 \$17,946	(*) Additive Manufacturing DLC coatings for red phospherous obscurants. Platform Digitization and maintenance. Stretch broken carbon fiber, UAS fin system enhancements (*) Maintain FARA ecosystem level of effort
Air Platform Applied Research Air Platform Advanced Tech Future Vertical Lift Advanced Technology Aviation Advanced Development	\$41,588 \$17,946 \$177,836	\$46,588 \$17,946 \$233,586	(+) Multi Drone, Multi Sensor ISR (+) Autonomous configuration management and Aviation Records, data refinement for sustainment. FLEE TSPACE Management tool FVI. Surface tolerant afficiency, individual blade and higher harmonic control UH- 60 main roter blade modernization (-) FARA PM Costs, (-) FLRAA WSD ahead of need, (-) all electric fight	\$41,588 \$37,946 \$308,846	(+) Additive Manufacturing, DLC coatings for red phospherous obscurants, Platform Digitization and maintenance, Swetch broken carbon fiber, UAS fin system enhancements (-) Maintain FARA ecosystem level of effort ***FARA and FLRAA paritioned out in the next to
Air Platform Applied Research Air Platform Advanced Tech Future Vertical Lift Advanced Technology Aviation Advanced Development Future Attack Recon Aircraft (FARA)	\$17,946 \$17,936 \$177,836 \$1,162,344	\$46,388 \$17,940 \$233,586	(+) Multi Drone, Multi Sensor ISR (+) Autonomous configuration management and Aviation Records, data refinement for sustainment. FLEE TSPACE Management tool FVI. Surface tolerant afficesives, individual blade and higher harmonic control UH- 60 main roter blade modernization (-) FARA PM Costs, (-) FLRAA WSD ahead of need, (-) all electric fight control systems, (-) FLRAA	\$41,588 \$17,946 \$201,838	(+) Additive Manufacturing, DLC coatings for red phospherous obscurants, Platform Digitiration and maintenance, Stretch broken carbon fiber, UAS fits system enhancements (-) Maintain FARA ecosystem level of effort "FARA and FLRAA partitioned out in the next to fanding lines (-) (No Comment Provided SAC-D Mark) (+) Program increase FLRAA, Modular
Air Platform Applied Research Air Platform Advanced Tech Funge Vertical Lift Advanced Technology Aviation Advanced Development Funge Attack Recort Aircraft (FARA) Funge Long Range Assault Aircraft (FLRAA)	\$41,588 \$17,946 \$177,836 \$1,162,344 N/A N/A	\$46,388 \$17,940 \$233,586 \$233,586 N/A	(*) Multi Drone, Multi Sensor ISR (*) Autonomous configuration management and Aviation Records; data refinement for sustainment, FLEE TSPACE Management tool, FVI. Surface stolerant achesives, individual blade and higher harmonic control, UH- 60 main retor blade modernization (*) FARA PM Costs, (*) FLRAA WSD abead of need, (*) all electric fight control systems, (*) FLRAA N/A	\$41,588 \$17,946 \$201.836 \$201.836 \$439.915 \$778.365	(*) Additive Manufacturing, DLC coatings for red phospherous obscurants, Platform Digitalistics and maintenance, Stretch broken carbon fiber, UAS fin system enhancements (*) Maintain FARA ecosystem level of effort **FARA and FLRAA partitioned out in the next to finding lines (*) (No Commetz Provided SAC-D Mark)
Air Platform Applied Research Air Platform Advanced Tech Funge Vertical Lift Advanced Technology Aviation Advanced Development Funge Attack Recon Aircraft (FARA) Funge Long Range Assauk Aircraft (FLRAA) Small Unmanned Aerial Vehical (SUAV)(6.4)	\$41,588 \$17,946 \$177,836 \$1,162,344 N/A N/A	\$17,946 \$17,946 \$213,596 NA NA NA	(+) Multi Drone, Multi Sensor ISR (+) Autonomous configuration management and Aviation Records; data refinement for sustainment, FLEETSPACE Management tool, FVI. Surface tolerant afficesives, indosidnal blade and higher harmonic control, UH- 60 main retor blade modernization (-) FARA PM Costs, (-) FLRAA WSD alocal defineed, (-) all electric fight control systems, (+) FLRAA N/A N/A	\$41,588 \$17,946 \$201,836 \$201,836 \$439,915 \$778,365 \$1,425	(+) Additive Manufacturing, DLC coatings for red phosphorous obscurants, Platform Digitiration and maintenance, Stretch broken carbon fiber, UAS for system enhancements (*) Maintain FARA ecosystem level of effort ***FARA and FLRAA partitioned out in the next to fanding lines (*) (No Comment Provided SAC-D Mark) (*) Program increase FLRAA, Modular
Air Platform Applied Research Air Platform Advanced Tech Funge Vertical Lift Advanced Technology Aviation Advanced Development Funge Attack Recort Aircraft (FARA) Funge Long Range Assault Aircraft (FLRAA)	\$41,588 \$17,946 \$177,836 \$1,162,344 N/A N/A	\$46,388 \$17,940 \$233,586 \$233,586 N/A	(*) Multi Drone, Multi Sensor ISR (*) Autonomous configuration management and Aviation Records; data refinement for sustainment, FLEE TSPACE Management tool, FVI. Surface stolerant achesives, individual blade and higher harmonic control, UH- 60 main retor blade modernization (*) FARA PM Costs, (*) FLRAA WSD abead of need, (*) all electric fight control systems, (*) FLRAA N/A	\$41,588 \$17,946 \$201.836 \$201.836 \$439.915 \$778.365	(+) Additive Manufacturing, DLC coatings for red phospherous obscurants, Platform Digitiration and maintenance, Swetch broken carbon fiber, UAS fits system enhancements (-) Maintain FARA ecosystem level of effort "FARA and FLRAA partitioned out in the next to fanding lines (-) (No Comment Provided SAC-D Mark) (+) Program increase FLRAA, Modular
Air Platform Applied Research Air Platform Advanced Tech Funge Vertical Lift Advanced Technology Aviation Advanced Development Funge Attack Recon Aircraft (FARA) Funge Long Range Assauk Aircraft (FLRAA) Small Unmanned Aerial Vehical (SUAV)(6.4)	\$41,588 \$17,946 \$177,836 \$1,162,344 N/A N/A	\$17,946 \$17,946 \$213,596 NA NA NA	(*) Multi Drone, Multi Sensor ISR (*) Autonomous configuration management and Aviation Records; data refinement for sustainment, FLEE TSPACE Management tool, FVI. Surface stoler and affectives, individual blade and higher harmonic control, UH- 60 main retor blade modernization (*) FARA PM Costs, (*) FLRAA WSD abrad of need, (*) all electric fight control systems, (*) FLRAA N/A N/A (*) Accelerate FTUAS no. 1, Morro integrated transponder with embedded	\$41,588 \$17,946 \$201,836 \$201,836 \$439,915 \$778,365 \$1,425	(+) Additive Manufacturing, DLC coatings for red phospherous obscurants, Platform Digitiration and maintenance, Swetch broken carbon fiber, UAS fits system enhancements (-) Maintain FARA ecosystem level of effort "FARA and FLRAA partitioned out in the next to fanding lines (-) (No Comment Provided SAC-D Mark) (+) Program increase FLRAA, Modular
Air Platform Applied Research Air Platform Advanced Tech Future Vertical Lift Advanced Technology Aviation Advanced Development Future Attack Recon Aircraft (FARA) Future Long Range Assault Aircraft (FLRAA) Small Unmanned Aerial Vehical (SUAV)(6.4) Future Tactical UAS	\$41,588 \$17,946 \$177,836 \$1,162,344 N/A N/A \$1,462,344 S1,462,344	\$46,388 \$17,946 \$233,586 \$1,011,094 NA NA S1,425 \$134,719	(*) Multi Drone, Multi Sensor ISR (*) Autonomous configuration management and Aviation Records; data refinement for sustainment, FLEE TSPACE Management tool, FVI. Surface stoler and affectives, individual blade and higher harmonic control, UH- 60 main retor blade modernization (*) FARA PM Costs, (*) FLRAA WSD abrad of need, (*) all electric fight control systems, (*) FLRAA N/A N/A (*) Accelerate FTUAS no. 1, Morro integrated transponder with embedded	\$41,588 \$17,946 \$101,856 \$101,856 \$439,915 \$778,365 \$1,425 \$95,719	(+) Additive Manufacturing, DLC coatings for red phospherous obscurants, Platform Digitiration and maintenance, Swetch broken carbon fiber, UAS fits system enhancements (-) Maintain FARA ecosystem level of effort "FARA and FLRAA partitioned out in the next to fanding lines (-) (No Comment Provided SAC-D Mark) (+) Program increase FLRAA, Modular
Air Platform Applied Research Air Platform Advanced Tech Future Vertical Lift Advanced Technology Aviation Advanced Development Future Attack Recen Aircraft (FARA) Future Long Range Assault Aircraft (FLRAA) Small Unmanned Aerial Vehical (SUAV)(6.4) Future Tactical UAS	\$41,588 \$17,946 \$177,836 \$1,162,344 N/A N/A \$1,425 \$95,719	\$46,388 \$17,946 \$233,586 \$1,311,994 N.A. N.A. \$1,425 \$134,719	(*) Multi Drone, Multi Sensor ISR (*) Autonomous configuration management and Aviation Records; data refinement for sustainment, FLEE TSPACE Management tool, FVI. Surface stoler and affectives, individual blade and higher harmonic control, UH- 60 main retor blade modernization (*) FARA PM Costs, (*) FLRAA WSD abrad of need, (*) all electric fight control systems, (*) FLRAA N/A N/A (*) Accelerate FTUAS no. 1, Morro integrated transponder with embedded	\$41,588 \$17,946 \$101,846 \$101,846 \$439,915 \$708,365 \$1,425 \$95,719	(+) Additive Manufacturing, DLC coatings for red phospherous obscurants, Platform Digitiration and maintenance, Swetch broken carbon fiber, UAS fits system enhancements (-) Maintain FARA ecosystem level of effort "FARA and FLRAA partitioned out in the next to fanding lines (-) (No Comment Provided SAC-D Mark) (+) Program increase FLRAA, Modular
Air Platform Applied Research Air Platform Advanced Tech Future Vertical Lift Advanced Technology Aviation Advanced Development Future Attack Recon Aircraft (FARA) Future Long Range Assault Aircraft (FLRAA) Small Urmanned Aerial Vehical (SUAV)(6.4) Future Tactical UAS Aircraft Avionics Air Traffic Control Aircraft Survivability Equipment	\$41,588 \$17,946 \$177,836 \$1,77,836 \$1,162,344 N/A N/A N/A \$1,425 \$95,719 \$3,335 \$2,623 \$19,123	\$13,946 \$13,946 \$233,586 \$134,586 \$1,425 \$1,425 \$1,425 \$1,425 \$1,425 \$1,425 \$1,425 \$1,425	(*) Multi Drone, Multi Sensor ISR (*) Autonomous configuration management and Aviation Records; data refinement for sustainment, FLEE TSPACE Management tool, FVI. Surface stoler and affectives, individual blade and higher harmonic control, UH- 60 main retor blade modernization (*) FARA PM Costs, (*) FLRAA WSD abrad of need, (*) all electric fight control systems, (*) FLRAA N/A N/A (*) Accelerate FTUAS no. 1, Morro integrated transponder with embedded	\$41,588 \$17,946 \$101,846 \$101,846 \$439,915 \$778,365 \$1,425 \$95,719 \$3,335 \$2,623 \$19,123	(+) Additive Manufacturing, DLC coatings for red phosphorous obscurants, Platform Digitiration and maintenance, Stretch broken carbon fiber, UAS for system enhancements (*) Maintain FARA ecosystem level of effort ***FARA and FLRAA partitioned out in the next to fanding lines (*) (No Comment Provided SAC-D Mark) (*) Program increase FLRAA, Modular
Air Platform Applied Research Air Platform Advanced Tech Funge Vertical Lift Advanced Technology Aviation Advanced Development Funge Attack Recent Aircraft (FARA) Funge Attack Recent Aircraft (FARA) Small Urananned Aerial Vehical (SUAV)(6.4) Funge Tactical UAS Aircraft Avionics Air Traffic Control Aircraft Straffic Control Aircraft Straffic Control Small Urananned Aerial Vehical (SUAV)(6.5)	\$41,588 \$17,946 \$177,836 \$1,162,344 N/A N/A \$1,425 \$95,719 \$3,335 \$2,625	\$11,946 \$13,946 \$235,586 \$235,586 \$1,425 \$1,425 \$134,719	(*) Multi Drone, Multi Sensor ISR (*) Autonomous configuration management and Aviation Records; data refinement for sustainment, FLEE TSPACE Management tool, FVI. Surface stoler and affectives, individual blade and higher harmonic control, UH- 60 main retor blade modernization (*) FARA PM Costs, (*) FLRAA WSD abrad of need, (*) all electric fight control systems, (*) FLRAA N/A N/A (*) Accelerate FTUAS no. 1, Morro integrated transponder with embedded	\$41,588 \$17,946 \$101,816 \$101,816 \$101,816 \$1,425 \$95,719 \$3,335 \$2,623	(+) Additive Manufacturing, DLC coatings for red phosphorous obscurants, Platform Digitiration and maintenance, Stretch broken carbon fiber, UAS for system enhancements (*) Maintain FARA ecosystem level of effort ***FARA and FLRAA partitioned out in the next to fanding lines (*) (No Comment Provided SAC-D Mark) (*) Program increase FLRAA, Modular
Air Platform Applied Research Air Platform Advanced Tech Funge Vertical Lift Advanced Technology Aviation Advanced Development Funge Attack Recon Aircraft (FARA) Funge Attack Recon Aircraft (FARA) Small Unmanned Aerial Vehical (SUAV)(6.4) Funge Tactical UAS Aircraft Avionics Air Traffic Control Aircraft Survivability Equipment Small Unmanned Aerial Vehical (SUAV)(6.5) Aviation Ground Support Equipment	\$1,162,344 \$1,162,344 N/A N/A N/A N/A \$1,425 \$95,719 \$3,335 \$2,625 \$19,123 \$6,510 \$2,939	\$1,946 \$13,946 \$233,586 \$1,311,994 N/A N/A N/A \$1,425 \$1,9479 \$3,335 \$2,623 \$1,9123 \$6,530 \$2,939	(*) Multi Drone, Multi Sensor ISR (*) Autonomous configuration management and Aviation Records; data refinement for sustainment, FLEE TSPACE Management tool, FVI. Surface stoler and affectives, individual blade and higher harmonic control, UH- 60 main retor blade modernization (*) FARA PM Costs, (*) FLRAA WSD abrad of need, (*) all electric fight control systems, (*) FLRAA N/A N/A (*) Accelerate FTUAS no. 1, Morro integrated transponder with embedded	\$41,588 \$17,946 \$101,836 \$101,836 \$439,915 \$708,365 \$1,425 \$95,719 \$3,335 \$2,623 \$19,123 \$6,530 \$2,939	(*) Additive Manufacturing, DLC coatings for red phospherous obscurants, Platform Digitization and maintenance, Stretch broken carbon fiber, UAS fin system enhancements (*) Maintain FARA ecosystem level of effort **FARA and FLRAA partitioned out in the next to finding lines (*) (No Commett Provided SAC-D Mark) (*) Program increase FLRAA, Modular communication, command and control state
Air Platform Applied Research Air Platform Advanced Tech Future Vertical Lift Advanced Technology Aviation Advanced Development Future Attack Recort Aircraft (FARA) Future Attack Recort Aircraft (FARA) Future Long Range Assault Aircraft (FLRAA) Small Unmanned Aerial Vehical (SUAV)(6.4) Future Tactical UAS Aircraft Avienics Air Traffic Control Aircraft Survivability Equipment Small Unmanned Aerial Vehical (SUAV)(6.5) Aviation Ground Support Equipment Aircraft Certification	\$41,588 \$17,946 \$177,836 \$1,77,836 \$1,162,344 N/A N/A N/A \$1,425 \$95,719 \$3,335 \$2,623 \$19,123 \$6,510 \$2,929 \$2,777	\$1,946 \$13,946 \$235,596 \$235,596 \$134,719 \$1,425 \$134,719 \$3,335 \$2,623 \$19,123 \$6,530 \$2,777	(*) Multi Drone, Multi Sensor ISR (*) Autonomous configuration management and Aviation Records; data refinement for sustainment, FLEE TSPACE Management tool, FVI. Surface stoler and affectives, individual blade and higher harmonic control, UH- 60 main retor blade modernization (*) FARA PM Costs, (*) FLRAA WSD abrad of need, (*) all electric fight control systems, (*) FLRAA N/A N/A (*) Accelerate FTUAS no. 1, Morro integrated transponder with embedded	\$41,588 \$17,946 \$101,816 \$101,816 \$101,816 \$1,425 \$95,719 \$3,335 \$2,623 \$19,123 \$6,530 \$2,623 \$19,123	(+) Additive Manufacturing, DLC coatings for red phospherous obscurants, Platform Digitization and maintenance, Stretch broken carbon fiber, UAS fit system enhancements (-) Maintain FARA ecosystem level of effort ***FARA and FLRAA partitioned out in the next to finding lines (-) (No Commerz Provided SAC-D Mark) (+) Program increase FLRAA, Modular communication, command and control state (+) Big data analytics
Air Platform Applied Research Air Platform Advanced Tech Future Vertical Lift Advanced Technology Aviation Advanced Development Aviation Advanced Development Future Attack Recen Aircraft (FARA) Future Long Range Assault Aircraft (FLRAA) Small Unmanned Aerial Vehical (SUAV)(6.4) Future Tactical UAS Aircraft Sevietability Equipment Small Unmanned Aerial Vehical (SUAV)(6.5) Aviation Ground Support Equipment Aircraft Certification Chinock Product Improvement Program	\$41,588 \$17,946 \$177,836 \$177,836 \$1,162,344 N/A N/A N/A \$1,425 \$95,719 \$3,335 \$19,123 \$6,510 \$2,919 \$12,513	\$46,388 \$17,946 \$233,586 \$233,586 \$13,586 \$13,586 \$13,425 \$134,719 \$3,335 \$134,719 \$3,335 \$19,123 \$6,530 \$2,939 \$52,513	(*) Multi Drone, Multi Sensor ISR (*) Autonomous configuration management and Aviation Records; data refinement for sustainment, FLEE TSPACE Management tool, FVI. Surface stoler and affectives, individual blade and higher harmonic control, UH- 60 main retor blade modernization (*) FARA PM Costs, (*) FLRAA WSD abrad of need, (*) all electric fight control systems, (*) FLRAA N/A N/A (*) Accelerate FTUAS no. 1, Morro integrated transponder with embedded	\$41,588 \$17,946 \$101,836 \$101,836 \$101,836 \$178,365 \$1,425 \$95,719 \$3,335 \$19,123 \$6,530 \$2,939 \$4,777 \$47,513	(+) Additive Manufacturing, DLC coatings for red phospherous obscurants, Platform Digitization and maintenance, Stretch broken carbon fiber, UAS fis system enhancements (-) Maintain FARA ecosystem level of effort **FARA and FLRAA partitioned out in the next to finding lines (-) (No Commett Provided SAC-D Mark) (+) Program increase FLRAA, Modular communication, command and control state
Air Platform Applied Research Air Platform Advanced Tech Future Vertical Lift Advanced Technology Aviation Advanced Development Future Attack Recort Aircraft (FARA) Future Attack Recort Aircraft (FARA) Future Long Range Assault Aircraft (FLRAA) Small Unmanned Aerial Vehical (SUAV)(6.4) Future Tactical UAS Aircraft Avienics Air Traffic Control Aircraft Survivability Equipment Small Unmanned Aerial Vehical (SUAV)(6.5) Aviation Ground Support Equipment Aircraft Certification	\$41,588 \$17,946 \$177,836 \$1,77,836 \$1,162,344 N/A N/A N/A \$1,425 \$95,719 \$3,335 \$2,623 \$19,123 \$6,510 \$2,929 \$2,777	\$1,946 \$13,946 \$235,596 \$235,596 \$134,719 \$1,425 \$134,719 \$3,335 \$2,623 \$19,123 \$6,530 \$2,777	(+) Multi Drone, Multi Sensor ISR (+) Autonomous configuration management and Aviation Records; data refinement for sustainment, FLEE ISPACE Management tool, FVI. Surface tolerant afhesives, individual blade and higher harmonic countol, UH-60 main retor blade modernization (-) FARA PM Costs, (-) FLRAA WSD ahead of need, (-) all electric fight control systems, (-) FLRAA N/A N/A (-) Accelerate FTUAS no. 1, Mero integrated transponder with embedded crypto, Protected BE-CDL, Mode 303 (+) CH-47 engine (Possible Mis-Entry	\$41,588 \$17,946 \$101,816 \$101,816 \$101,816 \$1,425 \$95,719 \$3,335 \$2,623 \$19,123 \$6,530 \$2,623 \$19,123	(+) Additive Manufacturing, DLC coatings for red phosphorous obscurants, Platform Digitization and maintenance, Stretch broken carbon fiber, UAS fis system enhancements (-) Maintain FARA ecosystem level of effort ***FARA and FLRAA partitioned out in the next to finding lines (-) (No Commera Provided SAC-D Mark) (+) Program increase FLRAA, Modular communication, command and control state (+) Big data analytics
Air Platform Applied Research Air Platform Advanced Tech Future Vertical Lift Advanced Technology Aviation Advanced Development Future Attack Recort Aircraft (FARA) Future Attack Recort Aircraft (FARA) Future Long Range Assault Aircraft (FLRAA) Small Unmanned Aerial Vehical (SUAV)(6.4) Future Tactical UAS Aircraft Avienics Air Traffic Centrol Aircraft Survivabity Equipment Small Unmanned Aerial Vehical (SUAV)(6.5) Aviation Growth Support Equipment Aircraft Certification Chinock Product Improvement Program Improved Turbine Engine Program (ITEP) **Aviation Rocket System Product Improvement	\$41,588 \$17,946 \$177,836 \$177,836 \$1,162,344 N/A N/A N/A \$1,425 \$95,719 \$33,335 \$2,625 \$19,123 \$6,530 \$2,277 \$52,515 \$228,036 \$11,312	\$1,946 \$13,586 \$13,586 \$233,586 \$233,586 \$134,719 \$1,425 \$134,719 \$3,335 \$2,623 \$19,123 \$6,530 \$2,777 \$52,513 \$228,036 \$26,312	(+) Multi Drone, Multi Sensor ISR (+) Autonomous configuration management and Aviation Records, data refinement for sustainment, FLEETSPACE Management tool, FVI. Surface solerant adhesives, individual blade and higher harmonic coursel, UH-60 main roter blade modernization (-) FARA PM Costs, (-) FLRAA WSD ahead offueed, (-) all electric flight control systems, (+) FLRAA N/A N/A (+) Accelerate FTUAS inc 1, Mero integrated transponder with embedded crypto, Protected BE-CDL Mode 303	\$41,588 \$17,946 \$101,836 \$101,836 \$101,836 \$1,425 \$95,719 \$3,335 \$2,623 \$19,123 \$6,530 \$2,623 \$19,123 \$1,530 \$2,830 \$1,53	(+) Additive Manufacturing, DLC coatings for red phospherous obscurants, Platform Digitization and maintenance, Stretch broken carbon fiber, UAS fit system enhancements (-) Maintain FARA ecosystem level of effort ***FARA and FLRAA partitioned out in the next to finding lines (-) (No Commerz Provided SAC-D Mark) (+) Program increase FLRAA, Modular communication, command and control state (+) Big data analytics
Air Platform Advanced Tech Air Platform Advanced Tech Future Vertical Lift Advanced Technology Aviation Advanced Development Aviation Advanced Development Future Attack Recen Aircraft (FARA) Future Long Range Assault Aircraft (FLRAA) Small Urmanned Aerial Vehical (SUAV)(6.4) Future Tactical UAS Aircraft Georetol Aircraft Georetol Aircraft Georetol Aircraft Georetol Aircraft Special Vehical (SUAV)(6.5) Aviation Ground Support Equipment Aircraft Certification Chinole Certification Chinole Certification Chinole Certification Chinole Turbine Engine Program (ITEP) ** Aviation Rocket Systems Universal Products Utimianned Aircraft Systems Universal Products	\$41,588 \$17,946 \$177,836 \$177,836 \$1,162,344 N/A N/A N/A \$1,425 \$95,719 \$3,335 \$19,123 \$6,510 \$2,939 \$15,251 \$228,036 \$11,312 \$3512	\$1,946 \$17,946 \$233,586 \$233,586 \$1,425 \$134,719 \$3,335 \$1,425 \$134,719 \$3,335 \$19,123 \$6,530 \$2,939 \$2,930	(+) Multi Drone, Multi Sensor ISR (+) Autonomous configuration management and Aviation Records; data refinement for sustainment, FLEETSPACE Management tool, FVI. Surface rolerant affectives, individual blade and higher harmonic control, UH-60 main roter blade modernization (-) FARA PM Costs, (-) FLRAA WSD albead offused, (-) all electric flight control systems, (+) FLRAA N/A (+) Accelerate FTUAS inc. 1, Micro integrated transponder with embedded crysto, Protected BE-CDL Mode 303 (+) CH-47 engine (Possible Mis-Entry Meant for ITEP)	\$41,588 \$17,946 \$101,836 \$101,836 \$439,915 \$778,365 \$1,425 \$95,719 \$3,335 \$2,23 \$19,123 \$6,530 \$2,939 \$4,777 \$67,513 \$228,036 \$11,012 \$512	(*) Additive Manufacturing, DLC coatings for red phosphorous obscurants, Platform Digitization and maintenance, Stretch broken carbon fiber, UAS fin system enhancements (*) Maintain FARA ecosystem level of effort **FARA and FLRAA partitioned our in the next to funding lines (*) (No Comment Provided SAC-D Mark) (*) Program increase FLRAA, Medifar communication, command and control state (*) Big data analytics (*) CH-47 Engine Enhancement
Air Platform Applied Research Air Platform Advanced Tech Future Vertical Lift Advanced Technology Aviation Advanced Development Future Attack Recon Aircraft (FARA) Future Attack Recon Aircraft (FARA) Future Long Range Assault Aircraft (FLRAA) Small Unmanned Aerial Vehical (SUAV)(6-4) Future Tactical UAS Aircraft Avionics Air Traffic Control Aircraft Survivability Equipment Small Unmanned Aerial Vehical (SUAV)(6-5) Aviation Ground Support Equipment Aircraft Certification Chinock Profice Improvement Program Improved Turbine Engine Program (ITEP) **Aviation Rocket System Product Improvement Unmanned Aircraft Systems Universal Product Apache Future Development	\$41,588 \$17,946 \$177,836 \$177,836 \$1,162,344 N/A N/A N/A \$1,425 \$95,719 \$3,335 \$2,625 \$19,123 \$6,530 \$2,959 \$2,777 \$52,513 \$228,036 \$14,312 \$10,674	\$46,388 \$17,946 \$235,586 \$235,586 \$1,425 \$134,719 \$3,335 \$2,623 \$2,623 \$2,777 \$52,513 \$228,036 \$24,036 \$26,036	(+) Multi Drone, Multi Sensor ISR (+) Autonomous configuration management and Aviation Records; data refinement for sustainment, FLEE ISPACE Management tool, FVI. Surface tolerant afhesives, individual blade and higher harmonic countol, UH-60 main retor blade modernization (-) FARA PM Costs, (-) FLRAA WSD ahead of need, (-) all electric fight control systems, (-) FLRAA N/A N/A (-) Accelerate FTUAS no. 1, Mero integrated transponder with embedded crypto, Protected BE-CDL, Mode 303 (+) CH-47 engine (Possible Mis-Entry	\$41,588 \$17,946 \$101,836 \$101,836 \$101,836 \$178,365 \$1,425 \$95,719 \$3,335 \$2,623 \$19,123 \$6,530 \$2,939 \$4,777 \$6,530 \$2,836 \$11,332 \$11,332 \$11,332 \$11,332	(+) Additive Manufacturing DLC coatings for red phospherous obscurants. Platform Digitiration and maintenance. Stretch broken carbon fiber, UAS fits system enhancements (-) Maintain FARA ecosystem level of effort ***FARA and FLRAA partitioned out in the next to finding lines (-) (No Commerz Provided SAC-D Mark) (+) Program increase FLRAA, Modular communication, command and control state (+) Big data analytics
Air Platform Applied Research Air Platform Advanced Tech Funge Vertical Lift Advanced Technology Aviation Advanced Development Funge Attack Recort Aircraft (FARA) Funge Attack Recort Aircraft (FARA) Funge Attack Recort Aircraft (FARA) Small Unmanned Aerial Vehical (SUAV)(6.4) Funge Tactical UAS Aircraft Aviorics Air Traffic Control Aircraft Survivabity Equipment Small Unmanned Aerial Vehical (SUAV)(6.5) Aviation Ground Support Equipment Aircraft Certification Chinock Product Improvement Program Improved Turis Engine Program (ITEP) ** Aviation Rocket Systems Product Improvement Unmanned Aircraft Systems Universal Product Aircraft Engine Component Improvement Aircraft Engine Component Improvement Program Aircraft Engine Component Improvement Program Aircraft Engine Component Improvement Program Aircraft Engine Component Improvement Program	\$41,588 \$17,946 \$177,836 \$1,162,344 N/A N/A N/A N/A \$1,425 \$95,719 \$33,335 \$2,625 \$19,123 \$4,525 \$19,123 \$2,277 \$2	\$1,946 \$13,946 \$233,586 \$133,586 \$134,759 \$1,425 \$1,425 \$1,425 \$1,94759 \$2,623 \$19,123 \$19,123 \$19,123 \$2,277 \$2,2	(+) Multi Drone, Multi Sensor ISR (+) Autonomous configuration management and Aviation Records; data refinement for sustainment, FLEETSPACE Management tool, FVI. Surface rolerant affectives, individual blade and higher harmonic control, UH-60 main roter blade modernization (-) FARA PM Costs, (-) FLRAA WSD albead offused, (-) all electric flight control systems, (+) FLRAA N/A (+) Accelerate FTUAS inc. 1, Micro integrated transponder with embedded crysto, Protected BE-CDL Mode 303 (+) CH-47 engine (Possible Mis-Entry Meant for ITEP)	\$41,588 \$17,946 \$101,816 \$101,816 \$439,915 \$738,365 \$1,425 \$95,719 \$3,335 \$2,623 \$19,123 \$6,530 \$2,929 \$4,777 \$7,513 \$22,836 \$11,012 \$11,012 \$11,012	(*) Additive Manufacturing, DLC coatings for red phosphorous obscurants, Platform Digitization and maintenance, Stretch broken carbon fiber, UAS fin system enhancements (*) Maintain FARA ecosystem level of effort **FARA and FLRAA partitioned our in the next to funding lines (*) (No Comment Provided SAC-D Mark) (*) Program increase FLRAA, Medifar communication, command and control state (*) Big data analytics (*) CH-47 Engine Enhancement
Air Platform Applied Research Air Platform Advanced Tech Future Vertical Lift Advanced Technology Aviation Advanced Development Future Attack Recort Aircraft (FARA) Future Attack Recort Aircraft (FARA) Future Long Range Assault Aircraft (FLRAA) Small Urmanned Aerial Vehical (SUAV)(6-4) Future Tactical UAS Aircraft Avionics Air Traffic Control Aircraft Survivabity Equipment Small Urmanned Aerial Vehical (SUAV)(6-5) Aviation Ground Support Equipment Aircraft Certification Chinock Product Improvement Program Improved Turbine Engine Program (ITEP) **Aviation Rocket System Product Improvement Urmanned Aircraft Systems Universal Product Apache Future Development	\$41,588 \$17,946 \$177,836 \$177,836 \$1,162,344 N/A N/A N/A \$1,425 \$95,719 \$3,335 \$2,625 \$19,123 \$6,530 \$2,959 \$2,777 \$52,513 \$228,036 \$14,312 \$10,674	\$46,388 \$17,946 \$235,586 \$235,586 \$1,425 \$134,719 \$3,335 \$2,623 \$2,623 \$2,777 \$52,513 \$228,036 \$24,036 \$26,036	(+) Multi Drone, Multi Sensor ISR (+) Autonomous configuration management and Aviation Records; data refinement for sustainment, FLEETSPACE Management tool, FVI. Surface rolerant affectives, individual blade and higher harmonic control, UH-60 main roter blade modernization (-) FARA PM Costs, (-) FLRAA WSD albead offused, (-) all electric flight control systems, (+) FLRAA N/A (+) Accelerate FTUAS inc. 1, Micro integrated transponder with embedded crysto, Protected BE-CDL Mode 303 (+) CH-47 engine (Possible Mis-Entry Meant for ITEP)	\$41,588 \$17,946 \$101,836 \$101,836 \$101,836 \$178,365 \$1,425 \$95,719 \$3,335 \$2,623 \$19,123 \$6,530 \$2,939 \$4,777 \$6,530 \$2,836 \$11,332 \$11,332 \$11,332 \$11,332	(*) Additive Manufacturing, DLC coatings for red phosphorous obscurants, Platform Digitization and maintenance, Stretch broken carbon fiber, UAS fin system enhancements (*) Maintain FARA ecosystem level of effort **FARA and FLRAA partitioned our in the next to funding lines (*) (No Comment Provided SAC-D Mark) (*) Program increase FLRAA, Medifar communication, command and control state (*) Big data analytics (*) CH-47 Engine Enhancement



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.

UH-60V Completes Initial Testing



Initial testing on the Victor model Black Hawk began July 5 and wrapped up a month later after 200 flight hours. Successful completion of the testing "allows the Army to make an informed decision on transitioning the UH-60V to full production," product manager LTC Howard Swanson said in an Army statement. Test results are being reviewed by Army Test and Evaluation command with a report to follow as early as December.

AeroVironment's Jump 20 to Replace Shadow



The U.S. Army has chosen AeroVironment's Jump 20 unmanned aircraft system to be the first future tactical UAS as part of an effort to replace the runway-dependent Shadow drone. The \$8 million contract announced on August 18th will pay for one system, which includes six air vehicles, ground data terminals and ground control stations. according to the Army. The system will go to a single brigade combat team. JUMP 20 is the first fixed-wing unmanned aircraft system capable of vertical takeoff and landing (VTOL) to be deployed extensively in support of U.S. military forces. JUMP 20 delivers 14+ hours of endurance, a standard operational range of 115 miles (185 kilometers) and is runway independent. The system can be set up and operational in less than 60 minutes without the need for launch or recovery equipment and has a useable payload capacity of up to 30 pounds (13.6 kilograms). It also features a common autopilot and ground control system architecture. The Jump 20 is built by Arcturus which was purchased by AeroVironment last year.

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

Amentum Services Inc., Germantown. **MD**, was awarded a \$13,416,136 hybrid (firm-fixed-price and labor-hours) contract to provide contractor support to management and the supporting workforce for Corpus Christi Army Depot Aircraft and Aircraft Component Production: work will be performed in Corpus Christi, Texas, with an estimated completion date of Sept. 30, 2025.

Piedmont Propulsion Systems LLC, Winston Salem, NC, was awarded an \$11,545,493 firm-fixed-price contract for maintenance and overhaul of the UH-60 Helicopter rotor hub; work locations and funding will be determined with each order, with an estimated completion date of Aug. 26, 2027.

The Boeing Company, Ridley Park, **PA,** was awarded a \$29,000,000 firm-fixedprice contract for advanced procurement of long lead items for CH-47F Block 2; work locations and funding will be determined with each order, with an estimated completion date of Sept. 29, 2023.

Triumph Engine Control Systems LLC, West Hartford, CT, was awarded a \$56.322.429 firm-fixed-price contract for maintenance and overhaul of the Enhanced Digital Electronic Control Unit in support of Black Hawk helicopters: work locations and funding will be determined with each order. with an estimated completion date of Sept. 21, 2027.

Advertisers Index

ARESIA	12
Army Aviation Museum Foundation	
Avidyne	
BAE Systems	
Blackhawk Aerospace	
Coastal Seat Cushions, Inc.	
Collins Aerospce - Cedar Rapids	
Collins Aerospace, NC	7
Columbia Helicopters, Inc	
Crestwood Technology Group (CTG)	
Dallas Avionics	
David Clark Company	
Dayton-Granger, Inc.	
FLIR Systems, Inc.	
GETAC	
Gill Aviation	
Greenwood Aerospace	
Helibasket	
Industrial Electronic Engineers Inc	.42
KIMDU Technologies	
Lockheed Martin	
LSI, Inc	.41
Northern Wings	.16
Phantom Products, Inc	.21
Pilatus Business Aircraft	
S3, Systems Studies & Simulation	
Science and Engineering Services, SES, Inc.	.11
SKEDCO, Inc.	.20
Strata-G Solutions Inc	.31
Summit Aviation Inc	
Technisonic	.37
Torch Technologies	.43
Tyonek	.15
Vinnell Arabia	.45
Yulista Holdings, LLC	. 34

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Bronze

Aloha Chapter CSM Kenneth C. Baker CW3 Stephen Burnham 1SG Marcus H. Camp 1SG Rolando M. Cayanan CPT Brent T. Erickson CPT Michael J. Golden **CPT Jaime Jaquez** MSG David Katz 1SG Shawn A. Kirby CW3 Christopher Lawrence CW3 Andrew McCollum **CPT Jake Roberts** CW3 Jason Sheffield CPT Mitxel B. Totorica Central Florida Chapter LTC William A. McElwee, Ret. Colonial Virginia Chapter 1SG Trevor J. Clark CPT Samuel L. Lowell Gold Standard Chapter CW4 Sean P. Lynch LTC Richard "Trey" Williams

High Desert Chapter CW4 Michael Arns **CPT Nicholas Bastian** CW3 Michael Harms CW4 David Johnson **CPT Sean McManus** SFC Michael Ruibal **CPT Phillip Savoie** CW3 Joshua R. Thompson CPT Daniel Zajac Iron Mike Chapter CW4 Jason Werkman Keystone Chapter CW4 Brian Harmes MAJ Kandy M. Heekin MSG John R. Parker Morning Calm Chapter CW4 Sean Bailey CW4 Christopher Duquet CPT Abbey McConnell CW4 Christopher Neal CPT Jason R. Owen Oregon Trail Chapter SSG Daniel R. Cleveland Prairie Soldier Chapter CW3 Derek T. Whisler Southern California Chapter SFC Brent Simmons Stonewall Jackson Chapter SFC Wayne J. Abrams MAJ Charles D. Bvrd IV SSG Heather R. Hunt CW4 Brady W. Lemmon SFC Dylan A. Marker Tennéssee Valley Chapter MAJ Bradley Bruce Thunderbird Chapter SFC Ronald N. Hartleroad

Washington-Potomac Chapter LTC Aaron S. Weddle



Honorable Knight

Flint Hills Chapter
CPT Andrew E. Simer
High Desert Chapter
CPT Salvatore Ardizzone
CPT William Foard
CPT Charles Zoboblish
Volunteer Chapter
SGM Ronnie D. Argo



Our Lady of Loreto Air Assault Chapter

Jennifer Roop Aloha Chapter Rachel Zalewski Aviation Center Chapter Ivan Hughes Sherri Jo Longoria Colonial Virginia Chapter Melissa Custer Alexandrea L. Ferrin Connecticut Chapter Alice S. Behuniak Julie A. Leroux Gold Standard Chapter Elizabeth Kail High Desert Chapter Yurida Arns Karyn M. Brunson Hanzel Harms Jessie McManus Meghan Morris

AAAA Award Nominations Are Open NOW! Recognize Our Soldiers!



Awards To Be Presented at the 2023 Annual Army Aviation Mission Solutions Summit:

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

Nominations Due: January 1, 2023





UPCOMING EVENTS

NOVEMBER 2022

14-16 AAAA Cribbins Army Aviation Readiness Symposium, Huntsville, AL

14 AAAA National Executive Board and Scholarship Foundation Board of Governors Meetings, Huntsville, AL

DECEMBER 2022

6-7 AAAA Luther G. Jones Army Aviation Depot Forum, Corpus Christi, TX

The 123rd Army-Navy Game, Lincoln Field, Philadelphia, PA

15 Submission Deadline – Scholarship Applications



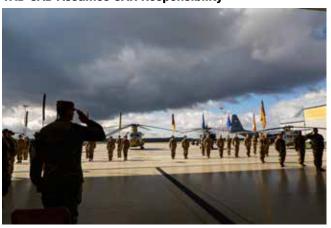
Changes of Command/Responsibility

Crocker Takes Command of OSA-A



LTC David W. Crocker returns the colors to CSM Wanda Kahl as he assumes command of the United States Army Operational Support Airlift Activity (OSA-A) during a ceremony at Davison Army Airfield, Fort Belvoir, Virginia, June 29th, 2022. The ceremony was hosted by COL Win A. Adkins (right, partially hidden), Commander, The Army Aviation Brigade (TAAB). Crocker succeeds LTC Scott M. Messare (center left). On a daily basis, OSA-A supports Army and Department of Defense joint airlift requirements with seasoned aircrews of C-12, UC-35, and C-26 aircraft.

1AD CAB Assumes OAR Responsibility



MG John V. Meyer III, left, commander of the 1st Infantry Division, concludes a transfer of authority ceremony at Powidz, Poland, Sept. 12, 2022. The 1st Armored Division's Combat Aviation Brigade assumed responsibility for the aviation component of Operation Atlantic Resolve under the 1st Infantry Division, providing air support capabilities to units deployed to Europe.

Flight School Graduates



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

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

43 Officers August 11, 2022 Class 22-020

Commissioned Officers

2LT Culbert, Isaac G. - DG

2LT Brock, Dakota G. - HG

2LT Lau, Brittany * - HG

2LT Aleu, Alexander J. 7

1LT Brock, Victoria A.

2LT Davis, Garrett M. 3



2LT Greaney, Ryan P. *

2LT Guitteau, Trey A. 3

1LT Hipenbecker, Joshua T. *

CPT Homrighausen, Kent D. *

2LT Mackey, David C., Jr. *

2LT Malsam, Matthew R. 7

2LT McFadyen, Ally C.

1LT Pattrick, Nicholas T. *

2LT Reynolds, Brett D. *

Warrant Officers

WO1 Hudgins, Scott A., II - DG

WO1 Brutlag, Christian J. - HG

WO1 Duhaime, Alexander B. - HG

WO1 Russell, Ethan D. - HG

WO1 Scheuerman, George L. - HG

WO1 Abresch, Jonathan P.

WO1 Cerrato, Bryan E.

WO1 Charles, Derek W.

W01 Dowden, Joshua S.

WO1 Emmons, Justin C.

WO1 Granados, Joseph C.

WO1 Howell, Abigail R.

W01 King, Joshua C.

W01 Larsen, Garret J.

WO1 Meier, Ryan D.

WO1 Nguyen, Michael V.

WO1 Olsen, Alec X.

WO1 Palomo, Enrique D.

WO1 Quezadapineda, Frederick

WO1 Reynolds, Michael L., II

WO1 Schantz, Michael A.

WO1 Shaffett, Dalton M.

WO1 Shay, Isaac C.

Flight School Graduates continued on next page



Flight School **Graduates** Continued

WO1 Teeter, Lane R. WO1 Turk, Jack C. WO1 Vavra, Cacey N. *

WO1 Woehrle, Colman A.

WO1 Workman, Jacob C.

49 Officers August 25, 2022 Class 22-021

Commissioned Officers

2LT Bve. Brett T. -DG

2LT Cooper, Nicholas B. * - HG

1LT Hymel, Cameran C. - HG

1LT Sodervick, Michael J. * - HG

2LT Broertjes, Joshua M.

1LT Bryant, Joshua S.

1LT Disch, Kyle A. *

1LT Erickson, Kathleen R. *

2LT Gray, Susannah E.

1LT Judd, David B.

1LT Marsh, Benjamin W. *

2LT Quijas, Kaytlin A. 7

1LT Quinette, Kyle S.

1LT Riester, Kyle N.

2LT Ring, Davis K. 1LT Rothermund, Kevin M. *

1LT Sheehan, Benjamin P.

2LT Snead, Joshua P.

2LT Sonnier, Louis L. *

2LT West, Riley J.

1LT Winters, Michael A. *

Warrant Officers

WO1 Terry, Chase D. * - DG

WO1 Burtonboy, Thomas E. - HG

WO1 Finch, Jeremy R. - HG

WO1 Holm, Joshua M. - HG

WO1 Lovvorn, Jared T. * - HG

WO1 Ballard, David A.

WO1 Bates, ShaynePatrick

WO1 Church, John F., IV

WO1 Crews, Justin P.

WO1 Draheim, Alex J.

W01 Fakhimi, Dylan E.

WO1 Green, Joseph D.

WO1 Griffin, Micheal W.

WO1 Hamilton, Larissa M.

WO1 Maldonado, Anthony M.

WO1 Mendoza, Eric M.

WO1 Morris, Robert E., Jr.

WO1 Payne, Tyrone V.

WO1 Reedel, Keshawn D.

WO1 Schlarman, Jake R.

WO1 Shull, Ryan C.

WO1 Simmonds, David R.

W01 Sims, Brittany G.

WO1 Valentine, Charles T.

WO1 Weatherhead, Kyle L.

WO1 Williams, Carl A.

WO1 Yaeger, Jonathan M.

WO1 Young, DeBron D.





54 Officers, September 8, 2022 Class 22-022

Commissioned Officers

CPT Fox, John H. * - DG 2LT LaFlamme, Oliver T. * - HG

2LT Wilson, Garrett W. - HG

1LT Baxley, Nathan D.

CPT Bonilla, Anthony R. *

1LT Bullard, Zachary E. *

1LT Carrick, Jordan W.

2LT Collier, Jeremy B.

1LT Gochee, Benjamin 7

2LT Hollinshead, Alynn A.

CPT Kelley, Mason R.

2LT Lindeman, Matthew W.

2LT Reep, Austin A.

2LT Sanchez, Vincent T.

1LT Stavig, Christian S.

2LT Stuhldreher, Daniel D.

2LT Wecker, Walter J. HG)

1LT White, Dylan L.

2LT Yother, Amber M. Warrant Officers

CW2 Brock, Drew M. - DG

WO1 Kim, Chan Pyo * - HG

WO1 Lausch, Kevin A. - HG

CW2 Leiner, Daniel P. * - HG

WO1 Olive, Jacob D. - HG

WO1 Barnes, Jeffery A.

WO1 Bearden, Jacob H. *

WO1 Bryson, Sean B.

WO1 Busch, Kaitlyn A.

WO1 Cissna, Tyler L.

WO1 Crews, Adam M. *

WO1 Elges, Justin T.

W01 Gray, Paden L.

WO1 Heidner, Jaron R. 7

WO1 Hogue, Jeremiah D.

WO1 Hughes, Dejour G.

WO1 legorov, Iulian R. WO1 Jackson, Nicholas D.

WO1 Jones, Caleb J.

WO1 Luna, Eric A.

WO1 Malloy, Matthew R.

WO1 McAnallen, Kyle B. WO1 McGowan, Cedric D. *

W01 Montanye, Jesse A.

WO1 Moore, Jefferson C.

W01 Orr, Justin M.

WO1 Payne, Joseph C. 7

WO1 Reed. Thomas M.

WO1 Salinas, Steven M.

WO1 Satack, Victor

W01 Schaub, Jarrod D.

WO1 Sonnek, Adam M.

WO1 Tusler, Daniel R.

WO1 Weil. Eric B.

WO1 Wood, Dillon A. *

-DG: Distinguished Graduate

-HG: Honor Graduate

= AAAA Member



Aerospace Medicine Residency

AAAA congratulates the following officers graduating from the Aerospace Medicine Residency Course at the U.S. Army School of Aviation

Medicine. Fort Rucker. AL.

June 30, 2022 Aerospace Medicine Residency

MAJ Devon Greer ' LTC Brett Matzek * CPT Ann Charlot

Occupational Medicine Residency

LTC Emily Simmons MAJ Douglas Hogoboom * **CPT Robert Gingerich** MAJ Mathew Cooper * = AAAA Member



AM Graduates 2022



OM Graduates 2022

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 025-22 PV2 Paul Ryan Dobbs * - DG PV2 Wayne Jeremy Acklin SGT Dean Bryan Bohannon SPC Albert Isaac Hard PV2 Anthony Jimenezvasquez PFC Gerard Nicholas Lee, II PFC Vaughn Kaydien Moore PV2 Andrew C. Pierce SPC Samuel Yeboah Class 026-22 PFC Chanho Lee - DG PV2 Biron Benjamin Boulay SPC Francis James Butler, III PFC Brandon Z. Gerdau PV2 Mateusz Grabarczyk PV2 Nicole Ryan Griffith PV2 Westin Gunnar Hill PFC Deandre A/Nesbitt PV2 Elizabeth C.Paveglio PV2 Angels C.Williams Class 029-22 PV1 Flynn M. Coffin * - DG PV2 Cody William Gilbert **CPL Daniel Negrontorres**

CH-47 Medium Helicopter | PFC Israel Fred Diaz Repairer (15U)

Class 023-22

PV2 Caleb Timothy Connor PV2 Eduardo J. Gonzalez PV2 Joseph Laurence Howard PV2 Anthony Tetsu Johnson PFC Felicity Sarah Lucas SGT Erik Llamas Navarro SPC Julian Osorio-Piedrahita PFC Isaac Daniel Bittner PV2 Miguel Angel Padilla SPC Gabrielle A.Rollins Class 026-22

PV2 Matthew Thomas * - DG PFC Anthony Thomas Bush MSG Mohammed Al Malki PV2 Andres Alvarez PFC Isaac Araki

PFC Rollie Bray, III SGT Kody Brown

PVT Wilfred Fegurgur SPC Britton Garza

PFC David Gill, Jr PFC Nick Gu

PFC George Hinds SPC Hans Veloso

Class 027-22

PFC Zackary Frankson * - DG PV2 Jacob Toler SFC Khalid Al Anazi PVT Adam Brown

PFC Alfredo Castro Jr SPC Joshua Harvey

PV2 Connor Johnson PFC Nathan Nunez

PV2 Zachary Peterson **PVT Leonardo Rosas**

UH-60 Helicopter Repairer (15T) Class 056-22

PV2 Jordan I. Lannerd * - DG PVT Christian Jacksonmckav PV2 Caroline M. Christie

SPC Jordan Elizabeth Frost SPC Daniel Dean Gould

PV2 Haley R. Mcintosh * - DG | SGT Hayle C. Johnson PV2 Zvonimir Marekovic PFC Jhanluis E. Ortasanchez

PFC Maison Anthony Rock CPL Tomas Sliva

PV2 Kaden Timothy Theis Class 057-22

PFC Lawrence D. Whitney * - DG | SPC Boa Choi

PFC Niamke C.Buchanan PFC Fletcher Noble Bullock SPC Robert Scot Burcham

PFC Marcus Demez Carter

PFC Mark C. Mestre, II PV2 Quinlan Javon Price

PFC Jayden Wade Vanaman

Class 059-22 PFC Judah Wolf * - DG

CPL Toni Alvir SPC Jasmine Keeney

PFC Anna Liang PFC Daguane Stephens

PFC Brittney Tatem

PV2 Devin Trotter PV2 Tyler Wrase

SPC Itanza Wright PFC Anthony Zavala

PV2 Juntong Zeng Class 060-22

PFC Miguel Godinez * - DG PV2 Shawn Aflague

PVT Clinto Alexander PFC Shon Byrd Jr SPC Zachary Casper

PFC Ethan Coker

SPC William Janise

SPC Derrick Krautlarger PFC Julio Ravodelosrios **PVT Ethan Smither** Class 061-22

SPC Christian Longacre * - DG PV2 Caleb Cummins PV2 Andre Trevor Magee

PV2 Brvan Arevaloalvarez PV2 Clyde Blocker IV PV2 Kvle Britton Jr

PVT Adam Chambers

PFC Joan Gonzalezlopez CPL Antun Popijac

PFC Grayson Sutherlin Class 062-22

PFC Colin Graefen * - DG PFC Ali Fadhil

SPC Michael James Dennis Jr PFC Reid Gammon

SPC Nathan Haan PFC Sergio Hernandez Jr

PV2 Jeremiah Jones

PFC Anthony Kolar SPC Danni Osorioalvarenga

Class 063-22

PV2 Jayden Kozloski * - DG

SPC Hal Courson Jr SPC Jordan Earl SPC Joseph Ebysantiago

PV2 Edward Lambright

PVT Prvce Ratka SSG Robert Tucker II

SGT Roland Wong *Class* 064-22

PFC Robert Spangler * - DG

SPC Travis Beal PVT Dennis Cielenski

PVT Tristan Hoffman PFC Michael Lopez

PVT Gloria Ramos **PVT Brandvn Salinas PVT Justin Wallace**

Class 065-22

PFC Ganney Dortch - DG

IPFC Gregory Bailey PFC Paul Chennault PVT Joshua Clark SPC Adriane Cortez PFC Enders Matthew

PFC Conner Freestone **PVT Carlos Galvan**

PFC Cullen Gutierrez PFC Kyle Highley

PVT Noah Mcgouyrk

Aircraft Powerplant Repairer (15B) Class 013-22

SSG Majid M. Al Darmaki SGT Mahmoud N. R. Al Rashidi SSG Yahya M. Y. Al Shareef PFC Jose Vicente Meija Jr PFC Malcolm Adelino Moniz

Aircraft Powertrain Repairer (15D) Class 006-22

PFC Anthony S. Pieper * - DG PV2 Joshua Ryan Adkins PV2 Shawn Lee Allen Jr PV2 Stephen Daniel Cloer PV2 Louie Steve Foy III PV2 Clayton Daniel Gourley PV2 Ndayishimiye Juste PFC Joseph Edward Luker PFC Austen M. Maccherone PFC Richard M. Olu Jordan SPC Rachel Carin Panacek PFC Komivi R.Semenou

Aircraft Electrician (15F) Class 011-22

PV2 Ethan K. Okumura * - DG

AIT Graduations Continued on next page

PV2 Dakota Blayke Phillips

PV1 Shaun R. Rhowuniong

PV1 Corey Michael Smith

PV1 Angel Christobal Soto

SPC Domonic Lee Tobin



AIT Graduations

Continued

PV2 Keith Joseph Bellanger PV2 Brian Keith Kulinski, Jr PFC Jose Armando Lorenzo SFC Ahmad Mzannar PV2 Jeremy James Sooley PV2 Craig Allen Taylor, Jr SPC Jessica Marie Walker

Aircraft Structural Repairer(15G) Class 009-22

PFC Jared Buchele * - DG

CPL Mohammed Al Subaie SGT Abdullah. Al Tubayri PFC Quinton Alan Ashlev PV2 Brady J. Bydynkowski PV2 Jonathan M. Calloway PFC Chase Caudill PFC Nicholas Kane Corcoran PFC Marek R.Ghabel SGT Garrett Edward Janisch SPC Julian Alexander Morales

Aircraft Hydraulics Repairer (15H) Class 008-22

SSG Abdulelah A. H. Al Talhah MAJ Mohamed Soliman Elsayed Soliman Ali SGM Hussain Ali Aljahdami SSG Drew Alexander Harrower SPC James Joseph Thacker

Avionic Repairer (15N) Class 009-22

PFC Jessay A. Colon * - DG SPC Isabel Camacho PV2 John E.Comstock II PFC Jayce Lee Enriquez PFC Matthew Curtis Hicks PFC Tyus Keshawn Jones, Sr PFC Ladareion D.Lowe

PV2 Patrick Shane Ohagan Class 010-22 PV2JoseOcequedaionesJr*-DG

SPC Ali Abdulah Alsaved SPC Jamal Winston Browne PV2 Cody Willard Brummitt PFC James E.Mcclerkin, III

PV2 Tayt E Miller SPC Kenneth Joseph Socci

Aviation Operations Specialist (15P) Class 22-021

PFC Andrew Sayre - DG **PVT Terrell Irby** PFC Keyshawn Boyd PV2 Adely Guevara PVT Zackary Blackmore PVT Jordan Brown PVT Parmida Ghazi **PVT Cameron Gross** Class 22-022

PFC Caroline Brown - DG PFC Stephanie Diaz Diaz

PFC Mason Duncan PFC Jacqueline Esparza-Price PFC Karlee Hughes

PFC Tyler Johnson PFC Austin Lanier PFC Kaylee Lawson

PFC Lakisha Louis PFC Tyler Ring

Class 22-201

PFC Jerritt Hargis - DG SPC Michael Von Doerstein PFC Anvah Brown PFC Brandon Cearing PFC Ryan Dooley PFC Joseph Grabowski PFC Amrita Kaur PFC Delon Norwood PFC Tyler Schoonhoven PVT Jamey Cardenas Class 22-023

PFC Landon Patterson - DG

PFC Anthony Amezquita PFC Brandon Gale

PFC Jacob Hurvsz PFC Keagan Liblin

PFC Kahli McDonald PFC Rubuna Murphy

PFC Jonathan Nevinger

PFC Jorge Ramos PFC Aaron Salo

PFC Amelia Weaver PV2 Jonatan Servin

PV2 Kalala Siaosi

Air Traffic Control Operator (15Q) Class 22-014

PV2 Ryan Bolton - DG SPC Miles Saker SPC Anne Zeiler PV2 Juana JimenezVentura

Class 22-015 PFC Michael Mabey -DG PFC Isaiah Beattie

SPC Phoenix Braswell SPC Austin Collins

PFC Michelle Beristain

PFC Haylee Bodden PFC Janae Hawkins

PFC James Peden PV2 Saul Acosta

Class 22-016

SPC James R. Pelfrey - DG SGT Micaela Santiago SPC Melanie Camargo SPC Genesis SierraRivera SPC Walter Sprinkle

PV2 Caleb Clark

PV2 Bonnie Mader PV2 Nicholas Swope

PV2 Akvlah Washington Class 22-017

SPC Rajesh Adhikari SPC Miguel Echevarria SPC Timothy Fieo PV2 Izaiyah Castrillon

AH-64 Armament/ Electrical/Avionic Systems Repairer (15Y) Class 011-22

PV2 Brady Steven Peckinpaugh * - DG CW2 Hamad Al Mushiri PV2 Malik Wayne Boyett PV2 Thomas Daniel Cisneros PV2 Enrique Garciaesteves PV2 Cameron Isaiah Guy PV2 Dennis Quintanillajandres PV1 Keaton D. Richardson PV2 Mickey James Ugolini PFC Zachary William Wall PFC Ebonee L. Williams

Unmanned Aircraft Systems (UAS) Graduations

UAS REPAIRER

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

Shadow UAS Repairer Course

7 Graduates, 11 August 2022

PFC Alicia Camarena PFC Andrew Hearsev PVT Beau Cristini **PVT Leo Francis** PVT Joshua Gabhart PVT Paxton Walter PV2 Jacob Williams

Grey Eagle UAS Repairer Course

13 Graduates, 4 August 2022

SGT Jayson Pugh SPC William Hite SPC Trevor Wagner SPC Elysa Sanchez PFC Matthew Curry PFC William Erb PFC Aaron Hall PFC Cindy Olascoagagallo PV2 Elijah Avina PV2 Aiden Cressman PV2 Ryne Goins PV2 Jose Jimenez

PV2 Rosio Tamavo

UAS Operator

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

Shadow UAS Operator Course

8 Graduates, 4 August 2022

SSG Juan Disla * SPC Chaz Mitchell

PFC Emerald Hazzard PFC Luis Iguaran

PFC Olivia Moss PV2 Isaiah Georges

PV2 Harold Jones PV2 Test Tes

7 Graduates, 4 August 2022

SPC Ian Francis PFC Cavden Tribble PFC Tripp Watkins

PV2 Michael Anthony Morris

PV2 Malachi Pelesasa **PVT Micael Williams**

PVT Kollyn Roach

Grey Eagle UAS Operator course

24 Graduates, 25 August 2022

SPC Nathan Colon SPC Macev Dial SPC Adrian Gonzalez

SPC Garry Mitchell SPC Cale Rice

SPC John Schwindt PFC Jason Denote

PFC David Faugno

PFC Zachary Kaloust PFC Jackson Martin

PFC Gabriel Perez PFC David Selmon

PFC Paxton Smith PV2 Nicolas Bonhomme

PV2 Dalton Distefano PV2 Martin Gomez

PV2 Elvin Gonzalez

PV2 Johnathan Gutierrez

PV2 George Hatfield PV2 Mauro Trahin

PV2 Jacob Wood

PVT Alexandra Dupra PVT Kyler Leurt

PVT Chrystian Perkins

DG - Distinguished Graduate

HG - Honor Graduate * = AAAA Member



Or Know an Army Aviation Soldier who is? Spread the Word!

You are eligible for a FREE 12 Month AAAA Membership.

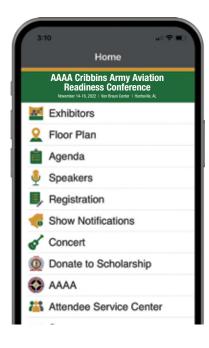
Contact: Deb@quad-a.org

f in 🚟 🗎



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- + Learn about Speakers
- + Receive Event Alerts





iPhone

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WHEN: Sunday, 13 November, 8:00 A.M., Shotgun Start

WHERE: Robert Trent Jones, Hampton Cove (Highlands and River courses)

FORMAT: 18 Holes, 4 Person Captains Choice

WHERE: \$100 / person. (The all-inclusive cost includes cart, greens fee,

range balls, breakfast, lunch, drink tickets and 2 Mulligans). Net proceeds go to the AAAA – Tennessee Valley Chapter

Scholarship Fund

PRIZES: There will be a Hole in One contest and other competitions with

great prizes as well as a number of giveaways. Place prizes for

1st, 2nd, 3rd, and 4th (on both courses – 8 winning teams)

Entry cutoff is 60 Teams on a first come, first serve basis.
 *Entry is not official until full payment is received.

• We will attempt to place individual players on a team.



Contact Bradley Bruce (256) 698-2186 or Bradleynbruce@live.com

what you leave behind for those that follow. AAAA Scholarships are a great way to help our aviation soldiers and families achieve their educational goals.

IS YOUR ESTATE PLAN COMPLETE?

- ✓ Will
- × AAAA Scholarship Foundation Planned Giving
- ✓ Revocable Trust
- ✓ Financial Power of Attorney
- Durable Power of Attorney for Healthcare

Consider adding the AAAA Scholarship Foundation to your will. Your gifts will continue to help others fund their college education after your lifetime.

Learn more at

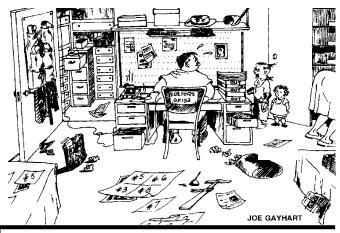
www.quad-a.org/scholarship

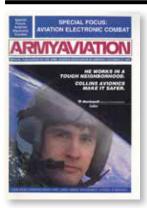
Contact Joanne Hansrote 203-268-2450, ext. 130 or scholarship@quad-a.org





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





25 Years Ago, October 31, 1997

The Women's Memorial

On October 18, 1997, The Women's Memorial honoring the women who have served in our nation's Armed Forces was dedicated at Arlington National Cemetery. Located at the main entrance, The Women's Memorial and its

Education Center will be a place for servicewomen, historians, scholars, teachers, children and the general public to come and participate in discussions, view films and photographs, and gain information on women in the military. For more information, contact Women in Military Service for America Foundation at (703) 533-1155, Dept. 560. Washington, D.C., 20042-0560

Distinguished Flying Cross Awarded

CWO Hank Ainsworth (Ret.) (center), receives Distinguished Flying Cross Award from Major General John M. Pickler (left), then Commander at Fort Carson, Colorado. Looking on is Mrs. Ainsworth.



Congressional Airpower

AAAA sponsored the Congressional Airpower Caucus Breakfast, September 11, 1997. Location was the Rayburn House Office Building. AAAA Senior Vice President, Major General Carl H. McNair (Ret.), addressed the assembled congressmen on AAAA's efforts to support our nation's defense.



Left to right: Rep. Terry Everett (R) AL-2; Rep. Buck McKeon, CA-25; Rep. Saxby Chambliss, (R) GA-8, Caucus Co-Chairman; General Dennis J. Reimer, Chief of Staff, U.S. Army and Major General McNair.

Army Aviation Scout Power

50 Years Ago, October 1972

Sky King

Members of the Embry-Riddle AAAA Chapter in Daytona Beach, are the audience for Kirby Grant, from the "Sky King"

TV series. Mr. Grant s p o k e

about his early years flying and, about a new TV series. A second presenter, LTC Donald Bissell, USAAVS, lectured on aviation safety.



For the Record

The Army Deputy Surgeon General, Major General (Dr.) Spurgeon H. Neel, M.D., is the first Army officer to be named President of the prestigious Aerospace Medical Association. The Association is concerned, in particular, with the medical aspects of flying and how man adapts to unusual environments of operation. Installed on May 11, Dr. Neel is considered the "father" of the Army's contemporary medicine program. He is recognized with the development of the helicopter ambu-



lance system used in Vietnam and the model for the highly effective, civilian-oriented Military Assistance to Safety in Traffic (MAST) program. General Neel is the recipient of Army Aviation's top safety award, AAAA's "James L. McClellen Trophy," in 1962.

The General and His Pilot

Army Chief of Staff, General William C. Westmoreland, chats with Captain James Viele, just prior to their flight. Captain Viele flew General Westmoreland by "Huey" from Burlington, Vermont to Norwich University, where General Westmoreland delivered a commencement address. Captain Viele, now a pilot with the Vermont



National Guard's 186th Aviation Battalion, had flown General Westmoreland while serving in Vietnam.



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

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

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

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

Army Aviation Hall of Fame

Lieutenant Colonel Paul A. Bloomquist, Deceased

Army Aviation Hall of Fame 2015 Induction – Nashville, TN

hroughout his short, but brilliant career, LTC Paul A. Bloomquist represented the very highest traditions of Army Aviation and strongly promoted the DUSTOFF spirit. Graduating from the Helicopter Officer's Course in 1954, his initial assignment was with the 54th Medical Detachment (Helicopter Ambulance) in South Korea.

After he returned to the U.S., his keen aviator skills were called on during a massive snowstorm that blanketed much of the northeast, in the winter of 1958. Flying a UH-19 helicopter in extremely hazardous conditions, Lieutenant Bloomquist logged 55 rescue missions and made 62 drops of food, medicine, and emergency supplies to travelers, farmers,



On 21 June 1964, Bloomquist's helicopter was struck by enemy fire that wounded him. He disregarded his own wounds and continued flying the remainder of the day and well into the night, logging nearly 13 hours of flight time until all of the casualties were evacuated. Only then, did he seek care for his own wounds. Experienced and blooded, Paul Bloomquist was the personification of charisma. A proud and almost defiant man by nature, he served as an outstanding role model for the younger pilots in his unit. Captain Bloomquist never refused a mission despite the enemy situation or bad weather, and he seemed to be at his happiest when flying the most difficult missions. Because of his heroic service in Vietnam, Captain Bloomquist was selected as the AAAA's "Army Aviator of the Year" in 1964.

Major Bloomquist returned to Vietnam in April of 1967 where he continued his "mission first" attitude. His knowledge of combat flying and leadership skills proved especially valuable during the "TET of 1968" when thousands of American and Vietnamese servicemen and civilians were wounded or killed.

After promotion to Lieutenant Colonel, he was assigned to the 3rd Armored Division in Germany during a particularly difficult time in our nation's history with rampant drug, social, and racial problems in the ranks. LTC Bloomquist attacked these issues head on and was able to quickly channel his soldiers? energies toward productive goals and maintain a high state of unit readiness.

On 11 May 1972, after spending his normal long day at the office, he walked across the street from the headquarters building to the Officers Club to exchange dollars in order to take his wife to dinner. As he started up the stairs to the Club, a series of three violent explosions occurred, killing him instantly. The terrorist group Baader-Meinhof gang, claimed responsibility.

Although his career ended far too early, he left behind a proud legacy of dedication, excellence, and unmatched courage for all Army aviators and crews to follow. He is a DUSTOFF hero and exemplar who made outstanding and enduring contributions to Army Aviation through his actions and selfless service.



