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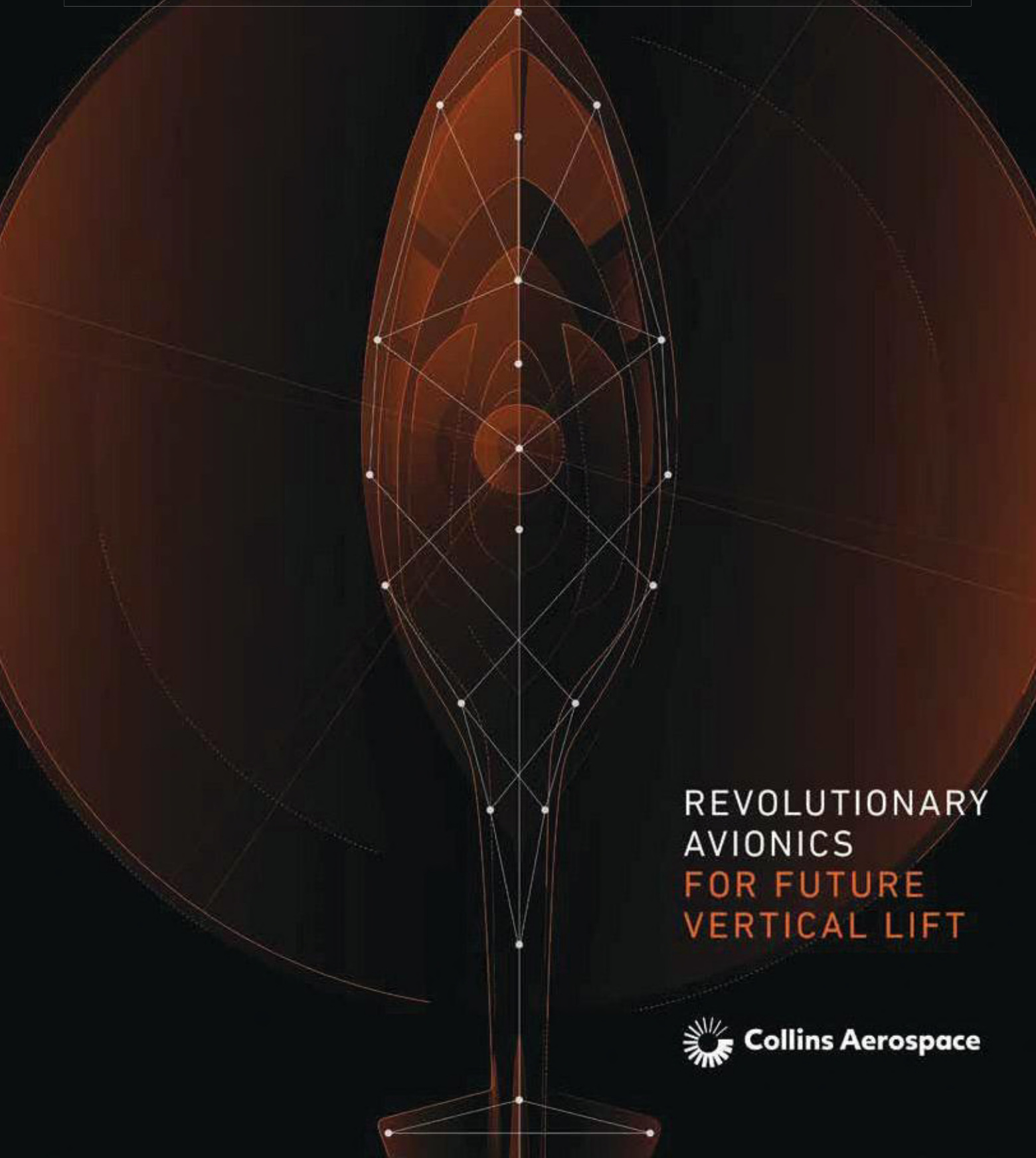

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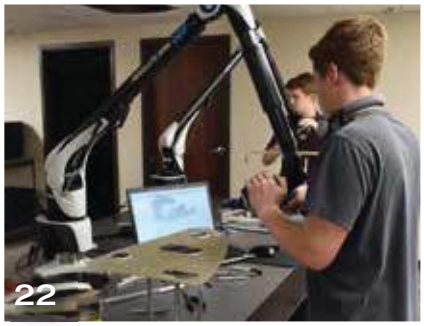

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POTUS Awards DFC to CAARNG Crews

WHITE HOUSE PHOTO BY SHEALAH CRAIGHEAD

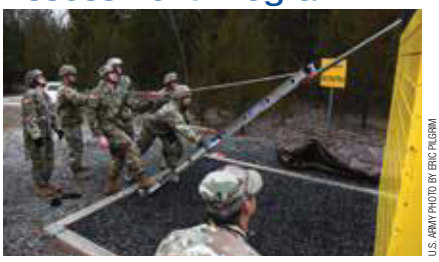
President Trump poses with members of the California Army National Guard, Sept. 14, 2020, at the Cal Fire Hangar at the Sacramento McClellan Airport prior to presenting them with the Distinguished Flying Cross for their heroic rescue of over 240 campers trapped by the Creek Fire starting the evening of September 5 into September 6. Pictured behind the President are (left to right): MG Matthew Beevers, Deputy Adjutant General, California; WO1 Ge Xiong, CW2 Irvin Hernandez, and CW5 Kipp Goding – the crew of the UH-60M Black Hawk from Fresno; and CW5 Joe Rosamond, CW2 Brady Hlebain, SGT Cameron Powell, and SGT George Esquivel the crew of the CH-47 Chinook, from Stockton. For more information and photos see the Army Aviation Spotlight feature on page 81 of this issue. Well done and congratulations to each of these citizen warriors.

USASOAC Change of Responsibility

U.S. ARMY PHOTO BY MSG SHANNON BLACKWELL, USASOAC

CSM Rob Armstrong (left), incoming command sergeant major, U.S. Army Special Operations Aviation Command, receives the USASOAC colors from COL Phil Ryan, USASOAC commander, during a change of responsibility ceremony at Fort Bragg, NC, Sept. 25. Armstrong takes over from CSM James (Jimmy) D. Wilson (right) as the sixth command sergeant major of USASOAC, commonly referred to as ARSOAC. Armstrong most recently served as the as command sergeant major for the 3rd Combat Aviation Brigade, 3rd Infantry Division and previously held positions within the 160th Special Operations Aviation Regiment (Airborne) as a battalion command sergeant major and company first sergeant. Wilson heads to Fort Rucker, AL and his next assignment as the command sergeant major of the U.S. Army Aviation Center of Excellence.

Colonel's Command Assessment Program



U.S. ARMY PHOTO BY ERIC PILGRIM

Lieutenant colonels and colonels attending the new Colonel's Command Assessment Program (CCAP) will be judged for their command potential solely on how they perform during the five-day course, which evaluates leadership strengths and weaknesses and forces them to use higher-level thinking and communication skills. CCAP is similar to the new Battalion Commander Assessment Program (BCAP)(pictured) and part of a larger effort to overhaul how the Army selects officers for important command positions. Currently, senior officers select battalion and brigade commanders in special boards, where they review and rank hundreds of personnel files. Now, Army officers will be judged on their performance in a series of tests designed to assess their physical fitness, intellect, psychological makeup and communications skills; and will have to demonstrate their ability to wrestle their way through complex problems during a Strategic Leader Exercise.

Temporary Pay Hike for Many – But There's A Catch

Military members earning $8,666.66 or less per month began seeing their paychecks increase by 6.2 percent of their basic pay beginning with the mid-September paycheck, but they'll have to pay it back starting in January. This affects all enlisted members, virtually all warrant officers and many officers, to include everyone up through the grade of O-4. The increase comes from a Social Security payroll tax deferral put into place by President Donald Trump's Aug. 8 memorandum, and subsequent Internal Revenue Service guidance in an effort to ease some economic problems caused by the COVID-19 pandemic. But as of Jan. 1, service members will repay the money over a four-month period ending April 30. Military members and civilian employees cannot opt out of the deferral, according to the Defense Finance and Accounting Office.

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Sustainment and Ensuring Army Survivability

AAPI FILE PHOTO

Dr. F. Harold "Hal" Kushner
VP Member & Family Wellness

As a young combat engineer and later as an Army Aviator, I dwelled in a world focused on tactics, maneuver, and taking the fight to the enemy. Maintenance and sustainment were important to me, but it was often somebody else's problem.

What a rude awakening I got as a new battalion commander. Sustainment was MY responsibility, and I had lots to learn!

Later as a brigade and division commander at war, I found myself often consumed with battlefield logistics and maintenance as well as future sustainment of my formations and their equipment. I came to realize the truth of that old axiom: in war, armchair warriors use little hands on big maps to spout off tactics and strategy; true masters at the profession of arms focus first on logistics to ensure success.

In this issue we provide that needed focus on sustainment. AMCOM Commanding General MG Todd Royar delves deep into the data challenges we have in Army Aviation – almost a case of too much of a good thing. He indicates how three initiatives will help us sort through the unimportant to find the critical data to improve readiness and long term sustainability: ACN to GCSS-Army linkage, Modular Open System Architecture, and Digital Thread and Advanced Manufacturing. Aviation Branch Maintenance Officer CW5 Mike Cavaco dives even deeper into the data issue by discussing the capabilities and challenges of two current systems in place now: the U.S. Army Aviation and Missile Command's (AMCOM's) WebDesk and the AMCOM Message Tracking System (AMTRACKS) software applications. As he notes, "both provide valuable situational awareness at the enterprise level providing units input to timely and accurate information, however both are extremely stove-piped." And as he concludes, we need to ensure any new data system should supply information to enterprise levels as well as provide relevant and valuable information for unit level leaders to make sustainment decisions with. Finally, AMCOM CSM Mike Dove gives us the why, what and how of the "digital twin."

We also provide focus on survivability in this issue, and our Branch Chief, MG Dave Francis leads off with a discussion on achieving survivability against a near peer threat through a combination of aircraft survivability equipment, TTPs and fighting as a combined arms team, a force very familiar with synchronizing lethality across a multi-domain environment. He receives supporting fires from the Aviation Mission Systems and Architecture team as well as the USAACE Aviation Mission Survivability and ASDAT teams.

Both sustainment and survivability are particularly appropriate for this issue as we continue to optimistically plan to hold our "live" Cribbins Training, Equipping and Sustainment Symposium at Huntsville, Alabama 16-18 November, followed by our annual AAAA Aircraft Survivability Equipment Symposium 7-8 December in Kissimmee, Florida.

We have some important recognitions that we make in this issue: Army Aviator Brigadier General Joseph Edwards II departs division command of the 104th Division to assume duties at Headquarters, Department of the Army, G-9. Congratulations General Edwards! And we also highlight the incredible flying and accomplishments of seven aviators and crew members of the California National Guard, who recently were awarded Distinguished Flying Crosses by the President of the United States. Their story is truly amazing!

We at AAAA are always doing our best to remain relevant to our membership and our branch. Last month I formally announced the appointment of Colonel (Retired) and Doctor Hal Kushner, Army Aviation Hall of Fame inductee and former POW, as our very first AAAA Vice President for Member and Family Wellness. Doctor Kushner will provide advice to the AAAA board on how to safely conduct AAAA planned events and adopt best practices in accordance with national, state, and local protocols and procedures to help contribute to the health and safety of the Association members and families. He will also serve as the professional medical liaison to outside organizations, activities, and agencies.

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

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

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Survivability: A Combined Arms Discussion

By MG David J. Francis

U.S. ARMY PHOTO BY MAJ ROBERT FELLINGHAM

12th Combat Aviation Brigade staff members brief battle plans during a combined arms rehearsal for Saber Junction 20, Aug. 5, at Hohenfels, Germany.

Current and emerging threat capabilities provide our adversaries stand off from U.S. and coalition forces, which sets the basis for U.S. Army and Joint Force discussions on Multi-Domain Operations.

Our consensus on how we will fight across all domains, drives the U.S. Army modernization strategy to give us the ability to penetrate, dis-integrate the Integrated Air Defense Systems (IADS) and Integrated Fire Control (IFC), exploit the freedom of maneuver and return to competition on terms more favorable to U.S. and coalition forces.

Survivability results from a combination of Aircraft Survivability Equipment (ASE), Tactics Techniques and Procedures (TTP) and fighting as a combined Arms Team. This methodology insures the survivability of aviation assets as well as other members of the Combined Arms Team.

The Enemy

Everything we do tactically, operationally and strategically, is driven by the threat. We have phenomenal people and agencies across DOD, and many other entities that focus on identifying and understanding the functionality of enemy systems and how they are arrayed against us. We clearly recognize that the enemy continues to take detailed notes about how we employ and fight over the past dozen years plus. Even though that fight was not Large-Scale Combat Operations, our adversaries realized that they need to create a buffer zone – standoff – against us at every level. Their primary standoff against the Army Aviation force is a modernized version of the Cold War era concept of Integrated Air Defense System (IADS) and the reintroduction of Radio Frequency (RF) systems. However, the same agencies that work to define the threat capabilities and tactics are the same ones who work hand in glove with

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our folks who create the requirements to modernize current aircraft and build new aircraft, specifically the Future Vertical Lift (FVL).

The Aircraft

As we design new aircraft and modernize the enduring fleet, there is always an abundance of discussion. Discussion about capabilities such as speed, range, maneuverability, payload, weapons systems, sustainability and numerous other areas were there can be tradeoffs in order to tailor an aircraft for a certain mission set the Army needs us to do. We always strive to build multiple layers of survivability into our aircraft so that they can face the many challenges our adversaries throw at us. However, no aircraft, or ground vehicle for that matter, can be invulnerable to every weapon system on the battlefield and still execute their mission. Within the survivability bin there has to be a very refined process to match systems to the most probable lethal threat to the mission.

The Training

While aircraft play a large part in survivability, understanding the enemy's tactics techniques and procedures and then correctly employing the aircraft to frustrate the enemy's efforts can only be accomplished through tough, realistic training. Training one crew in one aircraft can be complex, but in Large Scale Combat Operations we will not be flying operations in teams of two, but will be flying multi-company, battalion, and brigade level operations. To that end we are orienting how we train everywhere from home station to the combat training centers.

As we evaluate future threat systems, we know that we will adjust our flight profile and need to do this in a deliberate manner. A current example is the threat's RF systems, by running high fidelity testing and countless hours of live testing, we developed Low Level Training Support Packages for the field which exploit weaknesses in the threat systems. Additionally, we implemented the Emergency Response Methodology, a training approach that that teaches crews to evaluate and react to emergencies when flying at low flight profiles in the grown clutter, all of this well help drive them be decisive in LSCO.

The most significant aspect of our training, like our fighting, is that we do not do it alone.

Combined Arms Operations

Large Scale Combat Operations in a multi-domain environment against a near peer is a significantly different approach to fighting than what we have been involved in the last two decades. To defeat a near peer threat our most capable tool is the Combined Arms Team, a force that is very familiar with synchronizing lethality across multiple domains. As a member of that team, Army Aviation has merged relevant TTPs and Aircraft Survivability Equipment (ASE) which not only equates to being a more dominate platform, but when combined with the other elements of the Combined Arms Team becomes an even more survivable and deadly system that will play a significant part in the fight on any battlefield – because winning matters.

Above the Best!

MG David J. Francis is the Army Aviation branch chief and commander of the U.S. Army Aviation Center of Excellence and Fort Rucker, AL.

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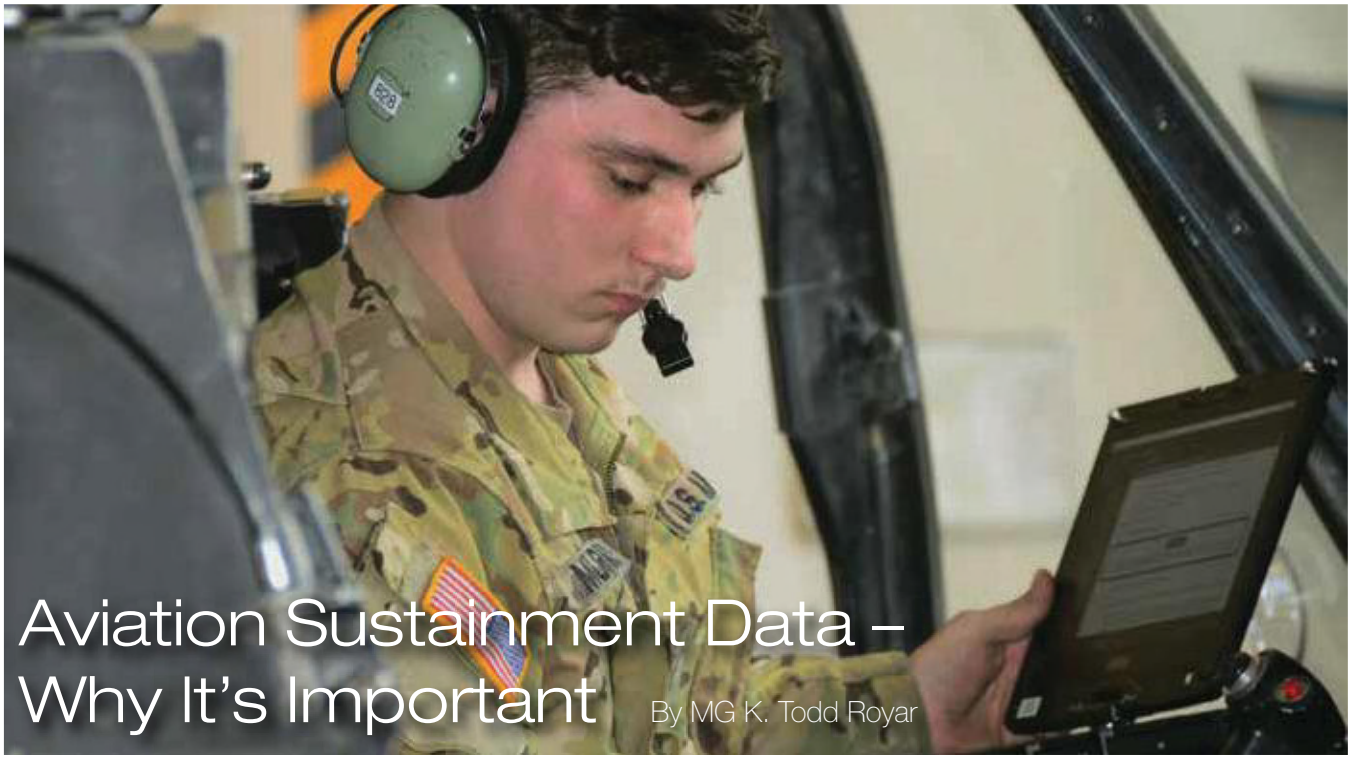

Aviation Sustainment Data – Why It's Important

By MG K. Todd Royar

U.S. ARMY PHOTO BY CHARLES ROSEMOND

SPC Damian Murry from C Company, 2-227th Aviation Regiment, 1st Air Cavalry Brigade from Fort Hood, Texas conducts main rotor system maintenance on an HH-60 MEDEVAC helicopter, at Katterbach Army Airfield in Ansbach, Bavaria, Germany.

In the April/May issue I discussed the Army Aviation Enterprise Sustainment Strategy which is focused on five enduring sustainment objectives: Expeditionary Aviation Force, Reduced Logistics Footprint, Increased Organic Capability, Improved Operational Availability, and Decreased Total Life Cycle Costs.

Underpinning the success or failure of every one of those objectives is data. Make no mistake, we have a lot of data – a whole lot. However, if we want to fully realize the potential gains associated with our sustainment objectives, I submit that we as an enterprise must adapt our approach to how we collect, store, and process our current and future data sets.

Today's Army Aviation Sustainment Data Architecture

I would like to report that our current system for collecting and storing aviation sustainment data is common and fully integrated, but the fact of the matter is that we're not there yet. Over time as an enterprise we have initiated and implemented multiple distinct solutions to problems, but most have been exactly that – distinct.

Data collection is too often unique to specific programs and sometimes duplicative. Just take our health and monitoring systems from each of our major platforms. All systems work and provide critical insight into both individual airframes and our fleets – but as you are aware, they are not common. The ones and zeros coming off each platform are not in a standard format requiring units to manage by platform, instead of a common solution. It is equally problematic in other areas. Most in the community probably think that what our senior leaders see every day for aviation readiness is based on what units report in Aircraft Notebook (ACN). The truth is Army senior leaders actually see the aggregate of what the Logistics Assistance Representatives report in AMCOM's Webdesk application. I contend this is duplicative and something we are in the process of changing.

Data is also too often stored in silos. The aviation enterprise works well together but we have too many separate data sets that essentially measure the same thing. Individual organizations, including AMCOM, get wedded to their own solutions. The result is we spend more time trying to convince each other on the validity of our model, than we do solving the common problem.

Why Good Data Matters

Many readers of this article were in the Army when data was generated locally and only used locally. In that era data was not processed, analyzed and utilized at near real time at the operational and strategic levels. In today's multi system integrated environment data flows from the tactical level through the operational level to the strategic level and back at near real time, so accuracy and complete-


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ness matters to enable leaders at all levels to make timely informed decisions.

Garbage in, garbage out. Data is used at multiple levels today so minor errors at a local level may not seem to have much of an impact, however, collectively it does. Anyone who has attended a FORSCOM Monthly Aviation Readiness Reviews (MARR) recently has first-hand knowledge of the importance of accurate data and Readiness reporting. Take an aircraft phase inspection for example, can a phase really be completed in 100 man hours or change an engine in .1 hour? Just because the block will accept the input, it's critical that it is accurate and complete as others are making operational and strategic decision based on the source data.

Strategic decisions will be made with the data available. Good data gives us the confidence to change. Should we blindly accept that a particular component has a time between overhaul (TBO) of X hours that was set 40 years ago, or should we constantly re-evaluate it based on the data to decrease it for safety reasons or hopefully increase it to reduce the maintenance burden. Can we limit the scope of Safety of Flight messages because we know where everything is, or do we want to accept casting the net wide and creating unnecessary work?

You think we have a lot of data now. We must get this right now because the amount of data we will be managing in the future will be exponentially more. As an example, we are in the process of creating a digital twin UH-60L. Within the next year and a half, we will have a 3D Computer Aided Design model of every part which will give us unprecedented capability to procure and even produce parts. No doubt that is an impressive and exciting capability, but how we store and manage that data will make a difference on the potential results. FARA and FLRAA will expand the aperture even more.

Realizing Opportunities

We have an opportunity to get data management right. Many of the issues discussed are currently being worked and solutions are being developed, but we cannot take our eye off the ball. If we want to be successful, I submit our data sets must be common, accessible to those who need it, and complete enough to enable change. Several key initiatives are already underway.

ACN to GCSS-Army linkage. Within the next two years, there will be several updates to ACN enabling the connection to G-Army. This will have multiple advantages to include having a single reporting mechanism and enable our ability to see where parts are across the entire supply system – not just those on wing.

MOSA. The Modular Open System Architecture work being done by the Future Vertical Lift Cross Functional Team and PEO Aviation is groundbreaking. It will set the standard across the board for data coming off our platforms.

Digital Thread and Advanced Manufacturing. The force is strong within the aviation enterprise as to ensuring we have a common and sustainable solution as to how we receive, store and use the 3D models we will get back from the UH-60L digital twin and future projects. These models alone will enable us to systematically qualify some parts for advanced manufacturing.

In closing, big data is already here and more is coming. If we want to get the most out of it and achieve the objectives in our sustainment strategy, we must act in unison now. Proprietary and unique systems may work great for a specific issue, but they will come at the expense of the entire aviation enterprise. We owe it to not only our senior leaders, but the American taxpayer to ensure we get it right.

MG K. Todd Royar is the commanding general of the U.S. Army Aviation and Missile Command at Redstone Arsenal, AL.

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Aviation Maintenance Data vs. Information – How We Use It

By CW5 Michael D. Cavaco

U.S. ARMY PHOTO BY SPC. JENNIFER ANDERSSON

CW4 Joel Sizelove, the production control officer in charge for Task Force Lift, checks the readouts from the integrated vehicle health management system on a UH-60M Black Hawk to determine, among other things, track vibrations in the rotors.

Much of the recent discussion on airworthiness, sustainment and logistics includes references to data: data acquisition, data mining and data analytics are a few examples.

This is certainly valid and critical to how we build and sustain our next generation of vertical lift aircraft. However, sustainment is a 300 meter target; how does data help us at the 10 meter range with day to day operational maintenance? To help answer this question, I prefer to focus the discussion on information. Undoubtedly, individual data points add up to information, but often the amount of information needed at the unit level is far less than what we are after. Getting the right pieces of information to the right place at the right time is critical to making important operational and risk decisions from platoon level to Army level. However, the systems we have in place across the aviation enterprise right now do not adequately integrate all of the available information. Instead, they create pockets of knowledge – and critical pieces are only being shared with some of the audience. Two recent examples that come to mind are the U.S. Army Aviation and Missile Command's (AMCOM's) WebDesk and the AMCOM Message Tracking System (AMTRACKS) software applications. Both provide valuable situational awareness at the enterprise level providing units input to timely and accurate information. Both are extremely stove-piped.

WebDesk

WebDesk is an AMCOM designed and managed website that allows a multitude of logistics assistance tools for our U.S. Army Materiel Command's Aviation Logistics Assistance Representatives (LARs) around the globe. It allows for communications between LARs, system analysts and item managers on various platforms information regarding technical assistance and tracking the shipment of parts, to name a few capabilities. The ***Weapon System Status Report (WSSR)*** is one of the most frequently used WebDesk tools. It was originally intended to provide a snapshot of issues and parts affecting every non-mission capable aircraft in order to track fleet readiness to expedite support. It has become a de-facto daily status report for many in the aviation enterprise. The information in the WSSR is used by multiple organizations to build a common operating picture of fleet readi-

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ness. Why? Because it provides the most timely and accurate readiness summary. To make my point, this information is also present in the Aircraft Notebook (ACN) and the Global Combat Support System-Army (GCSS-A), but it is not filtered, cross-referenced and is routinely unavailable in comparison to WebDesk.

To be fair, the over-reliance on WebDesk for purposes other than which it was originally intended is a known problem. For that reason, AMCOM will shut down the WebDesk website in December 2020. That is not to say the information we are used to getting will no longer be available. There are a number of options that will provide this information and allow it to be better utilized. For instance, as ACN ties into the GCSS-A, the aircraft logistics and readiness information will be seamlessly integrated into Army wide status reporting. Additionally, the behind-the-scenes communication between LARs, engineers and item managers, etc., will be integrated into a U.S. Army Materiel Command wide program called ***LAR-Vis***(ibility). All information will now flow in concert with input from the U.S. Army Materiel Command LARs representing all three of the U.S. Army Materiel Command's Life Cycle Management Commands (AMCOM, the U.S. Army Communications Electronics Command and the U.S. Tank-automotive and Armaments Command) – essentially removing at least three stovepipes.

AMTRACKS

Another big gap in our swing when it comes to information flow is aviation safety message compliance reporting. This process is currently completed through an AMCOM-designed and managed website, called AMTRACKS. The year 2020 has already seen its share of Aviation Safety Action Messages and Safety of Flight Messages. Unfortunately for units, reporting compliance to ensure aircrew safety is not an automated process. The task of ensuring the message requirements make it to the logbook and are completed ultimately falls on the Soldier manually inputting the logbook entry. First and foremost units obviously need to focus on completing the inspections and maintenance to safeguard airworthiness. Once this step is complete, the Technical Inspectors can enter the applicable information into AMTRACKS. This process creates a lag, sometimes measured in days or weeks, when the information is most critical. Additionally, AMTRACKS only displays the information entered by the unit – it cannot Red-X an aircraft if a compliance date is exceeded. It is simply an electronic display of human entered information.

Both of these examples serve to highlight a problem in how we as an enterprise manage data and information. Too often, the focus is on the data flow up from units to the enterprise level. We need to continue to press to highlight the need for this information at the unit level. In an age when your smart phone pushes information based on what you had for lunch today, our logbooks should be able to automatically push and pull the latest information on readiness, logistics, safety and maintenance to every user in the fleet. This is where we are headed, and sooner rather than later. But the real "so-what" is that, in the meantime, we, as maintainers and leaders, need to make sure we are generating the right information – reporting rapidly and accurately – so our leaders can make informed decisions.

CW5 Michael D. Cavaco is the Aviation Branch Maintenance Officer, U.S. Army Aviation and Missile Command at Redstone Arsenal, AL.

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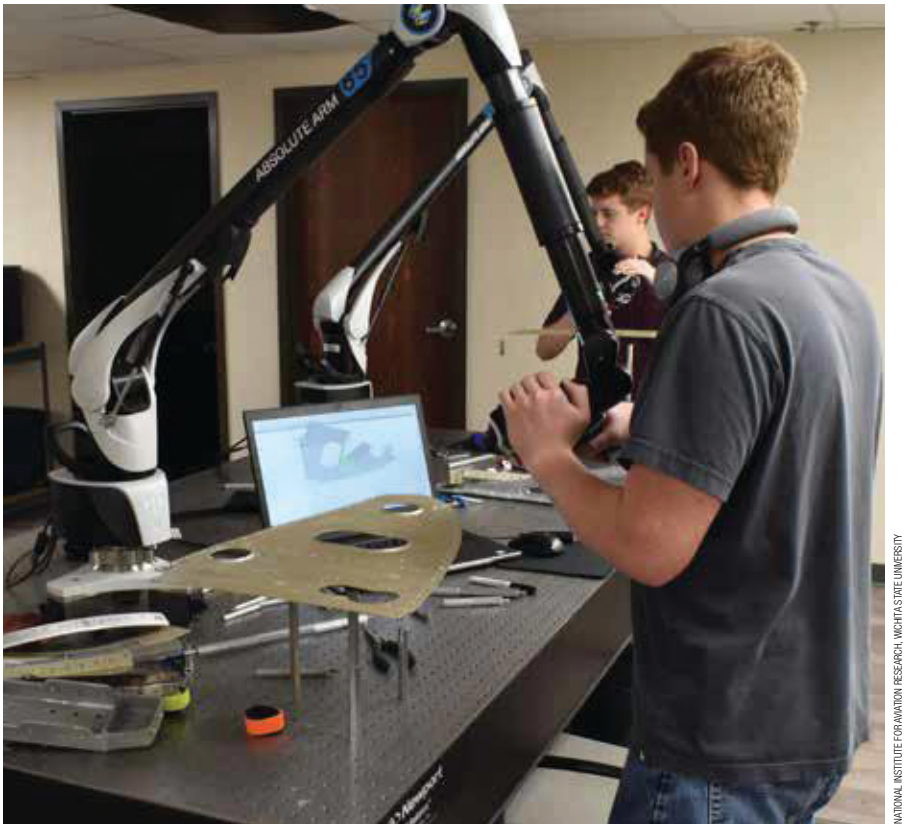
What is a Digital Twin?

By CSM Mike Dove

In the fall of 2019, the U.S. Army Aviation and Missile Command (AMCOM) in conjunction with the Program Executive Office Aviation, the Future Vertical Lift Cross-Functional Team and the Systems Readiness Directorate of the Combat Capabilities Development Command Aviation and Missile Center teamed together to commission a study on the operational availability and materiel availability for future vertical lift systems with Wichita State University (WSU).



NATIONAL INSTITUTE FOR AVIATION RESEARCH, WICHITA STATE UNIVERSITY

National Institute for Aviation Research personnel use high fidelity scanners during the reverse engineering of the UH-60L.

A few months into the study in January 2020, AMCOM leadership and primary sustainment representatives from each organization were invited to attend a briefing by WSU leadership on their capabilities, an update on the study and how other military services were utilizing WSU to create a digital twin of their aging fleet of aircraft. At the time of the visit, each of the other services had already completed or started a digital twin effort with WSU. In conjunction with the Secretary of Defense Strategic Capabilities Office, the Army is able to begin the process of creating a digital twin utilizing two UH-60L Black Hawks which were delivered to WSU in May 2020.

Origins of the Digital Twin

What exactly is a digital twin and how can it be used? According to the National Aeronautical and Space Administration (NASA), "A Digital Twin is an integrated multiphysics, multiscale simulation of a vehicle or system that uses the best available physical models, sensor updates, fleet history, etc., to mirror the life of its corresponding flying twin." NASA created the idea of a "twin" during the Apollo 13 mission when the world heard the famous phrase "Houston, we have a problem." NASA was forced to create a mock-up of the space capsule on the ground to solve the problem the astronauts were experiencing in space. NASA even created the Space Shuttle Pathfinder as a full scale replica of the Space Shuttle Enterprise known as a Facilities Test Article to test equipment, cranes, lifting devices and transport equipment in order to prevent damage to the actual orbiter. The Pathfinder is on display in Huntsville, AL at the Space and Rocket Center. All this leading to NASA being the first to introduce the term "digital twin" in 2010 in their Technology and Roadmap for 2011 and 2012.

Army's Digital Twin

Fast forward to the digital age of the 21st century, the Internet of Things, and the Industrial 4.0 revolution. Prior to computer aided drawings and now Global Finite Element Models (GFEM), aircraft drawings were two-dimensional blueprints, drawn to scale, on a flat piece of paper. Each measurement of every angle, thickness and type of material were included in these drawings. All of the Army's enduring aircraft were cre-

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Enlisted Aviation Soldier Spotlight

Each month we will feature a past AAAA National or Functional Enlisted or NCO Award winner as part of our ongoing recognition of the Best of the Best in our Aviation Branch. The CY 2019 National winners were featured in the April/May AAAA Annual Summit issue.

AAPI FILE PHOTO

SPC Christopher M. Smades

Company F, 1st Battalion, 52nd Aviation Regiment
Fort Wainwright, Alaska

Air Traffic Controller of the Year Award, 2014
Sponsored by The Raytheon Company

An extraordinary controller, a selfless Soldier, and an amazingly resilient individual, Specialist Christopher Smades is a one of a kind air traffic controller. His contributions throughout this past year made him a truly invaluable member of the Fox Company, 1st Battalion, 52nd Aviation Regiment team. From leading a tactical team of controllers in the Arctic tundra, to being the first Army Soldier to earn a Control Tower Operator rating at Eielson Air Force Base, as well as earning two additional ratings in Afghanistan, SPC Smades' accomplishments are extraordinary. Beyond controlling traffic, he played a critical role in training the first Afghan Air Traffic Controllers at Shindand Airbase. Every day his team works side by side with Italian, Mongolian, and U.S. Air Force personnel to train the Afghan Airmen, all the while building and maintaining relationships with our partners from around the world. Always putting the needs of his section and his unit ahead of his own, SPC Smades is a vital member of Fox Company and his technical and tactical expertise was crucial to the success of the Arctic Foxes' stateside and deployed success.

ated using two-dimensional, paper blueprints. That was the standard. One of the many digital standards used today is the GFEM which is quite impressive when viewed on the computer. The drawings are true three-dimensional representations of the parts and can be rotated on the computer so the engineer or vendor contracted to build a product can have a better understanding of the design of the part. WSU is actively creating the GFEM file for the UH-60L and AMCOM will have the first batch of digital files by the time this article is printed.

Sustainment Benefits

Sustainment of the enduring fleet provides challenges and opportunities. One of the challenges to sustain the Army's enduring fleet is the ability to acquire or produce obsolete parts. In fact, there are more than 500 parts vendors will not submit a bid to produce because there is not a digital drawing for those parts. The Army will continue to fly the UH-60 Black Hawk, the AH-64 Apache, and the CH-47 Chinook for several more years, actually decades. Therefore, it is not only nice to have these digital drawings, it is imperative to provide logistical sustainment. Some of the benefits that can be achieved with digital drawings include the ability to manufacture more efficiently, additively manufacture parts, reduce repair times and improve recapitalization processes at the depot.

Training Benefits

Similarly to how NASA developed the need for a twin to tackle a complex problem, the digital twin can be used to train pilots and maintainers. In a sense, the flight simulators used by the Army are digital twins. Simulators digitally represent the aircraft and flying conditions where pilots train for multiple scenarios, multiple times to create muscle memory and confidence in their ability to operate very complex aircraft at significantly reduced costs and risk to human lives. What about the maintenance professional? At the last few Army Aviation Association of America and Association of the United States Army symposiums, original equipment manufacturers and third party vendors presented several versions of digital maintenance trainers as a method to train aviation mechanics. Some of these digital training devices and concepts are simple yet impressive and allow the mechanic to train the task prior to performing the task on the aircraft. The concept is not new to the Army. The 128th Aviation Training Brigade at Fort Eustis, VA actually has digital trainers for the avionics maintainers at the school to create scenarios for mechanics to troubleshoot electrical problems on the AH-64 Apache. The National Guard Western Army Aviation Training Site operates an LUH-72A maintainer course which includes a portion of the instruction using a digital maintenance trainer. The challenge now is getting this capability to the mechanic in the field and not just at the school.

The digital twin is the future of manufacturing, logistics, prognostics, training and several additional areas. The Army now requires Original Equipment Manufacturers of future vertical lift platforms to use digital twin technology. AMCOM, the Army aviation enterprise, and the users of these systems will all benefit from the implementation of digital twin technology. AMCOM and the Army aviation enterprise are making remarkable achievements, but more work is required in the areas of digital engineering, advanced and additive manufacturing and improving the supply chain. The future is upon the Army and modernization is happening now.

CSM G. Mike Dove is the command sergeant major of the Aviation and Missile Command at Redstone Arsenal, AL.

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Combat Safety: Integrating ASE and Terrain Flight TTPs

By COL Ronald L. Ells

While aviation forces continue supporting the counterinsurgency (COIN) effort effectively utilizing aircraft survivability equipment (ASE), it has been particularly geared toward infrared (IR) missile threats and small arms.

U.S. ARMY NATIONAL GUARD PHOTO BY SGT. 1ST CLASS MARC BELO

Kosovo Force Regional-Command East Soldiers from the Task Force Aviation and Maneuver Battalion, train KFOR Polish contingent Soldiers on external load operations at Camp Maréchal de Lattre de Tassigny.

With the advent of the common missile warning system (CMWS) and inclusion of the "5th Sensor," Army helicopters have been able to operate at altitude and without multi-threats from an array of air defense weapon systems while operating against the COIN threat. But with the transition to operations against peer and near-peer threats, the tactics, techniques and procedures (TTP) necessary to manage threats from integrated air defense systems (IADS) will rely heavily on aircraft ASE integrated with flight TTPs executed at lower altitudes. The time to learn, understand and correlate the operational aspects of our ASE and its use in terrain flight is now. This will both increase individual proficiency and enable dynamic risk assessment in a high intensity/high workload environment.

Against IADS, the days of flying high and letting the CMWS handle engagement while remaining safely out of harm's way are in the past. While Army Aviation has adjusted its flight training to reflect the impact of IADS capabilities, as an enterprise we must fully integrate ASE into our training scenarios. While restrictions in national airspace might provide challenges for utilizing threat emulators and systems, this should not preclude instruction in theory and virtual training in the simulator against various types of air defense systems. Simulators allow operators to understand how ASE complements appropriate flight TTPs as well as appreciate how to continue operations when one or more systems fail during a combat mission.

The current aircrew training manual (ATM) for each specific airframe provides general information on how to couple ASE with flight TTPs to enable Army Aviation forces to evade and/or defeat various air defense systems. With the capability of peer and near-peer threat forces to engage our aircraft with multiple systems (IR, RF, laser, ultraviolet, and direct fire), it is critical to flight safety that our aircrews train academically and virtually to confront, evade and survive against these systems. Your unit aviation mission survivability officer (AMSO) plays a crucial role in integrating proper aircraft survivability training into your unit program. The AMSO provides the subject matter expertise necessary to integrate ASE and flight training to produce fully trained aircrews. Take the time now to train your aviation team to perform in high threat air defense combat operations utilizing aircraft and mission survivability TTPs combined with ASE. Training your aircrews to be comfortable executing complex missions at terrain altitudes to deter threat systems will pay major dividends in combat safety and survival. Left untrained in executing missions in IADS supported theaters, the threat will remain a dilemma for Army Aviation. But initiating and executing a rigorous training program focused on overcoming IADS capabilities utilizing flight TTPs with ASE integration transitions the dilemma to the enemy.

The hard, realistic training we apply to the combat dilemma for aviation operations must now fully integrate terrain flight TTP training with aircraft ASE systems. Combat safety is a force multiplier! Understanding your specific aircraft ASE, fully integrating it into the unit training program, and integrating appropriate flight technique training will give your unit the ability to fly, fight and win against our next peer or near-peer threat. Combat safety is paramount when winning matters!

Readiness Through Safety!

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

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Army Reserve Aviation Unit at the Forefront of Readiness

CPT Carlo Aragoncillo

Recently back from a deployment to the Southwest Asia Area of Operations in support of Operations Spartan Shield and Inherent Resolve, the 8th Battalion, 229th Aviation Regiment (8-229th AHB) based out of Fort Knox, Kentucky, is keeping readiness at the forefront.

U.S. ARMY RESERVE PHOTO BY CW3 STEPHEN LACOMBE

Aircrews from the 8-229th AHB stationed at Fort Knox, KY perform Fast Rope Insertion (FRIES) with Naval Special Warfare operators at a military operations in urban terrain (MOUT) site on Ft. Knox.

Within months of coming back home in early 2020, Aviation flight crews and assets were sent throughout the United States for training exercises which included special operations forces, combat arms, and several other units in need of rotary support.

The key to a successful high operational tempo is to maintain standards both overseas and at home.

CW3 Stephen Lacombe, who serves as a battalion standardization pilot for 8-229th AHB described standardization as, "The cornerstone of Aviation. Everything from training the aircrew to working within safety guidelines allows us to efficiently accomplish any mission. Because of those standards, we can support a wide range of organizations to include both U.S. and partner nations. This also affords us the flexibility to the Command by allowing them to build interchangeable aircrews comprised of different members from other organizations."

While with every mission and aircrew there can be a difference, readiness and safety are always a top priority for every event. No matter the challenge crews have been faced with, whether the current Coronavirus pandemic or balancing their military career with their civilian obligations, the 8-229th continues to maintain its readiness month after month to include conducting or participating in the following recent exercises and missions:

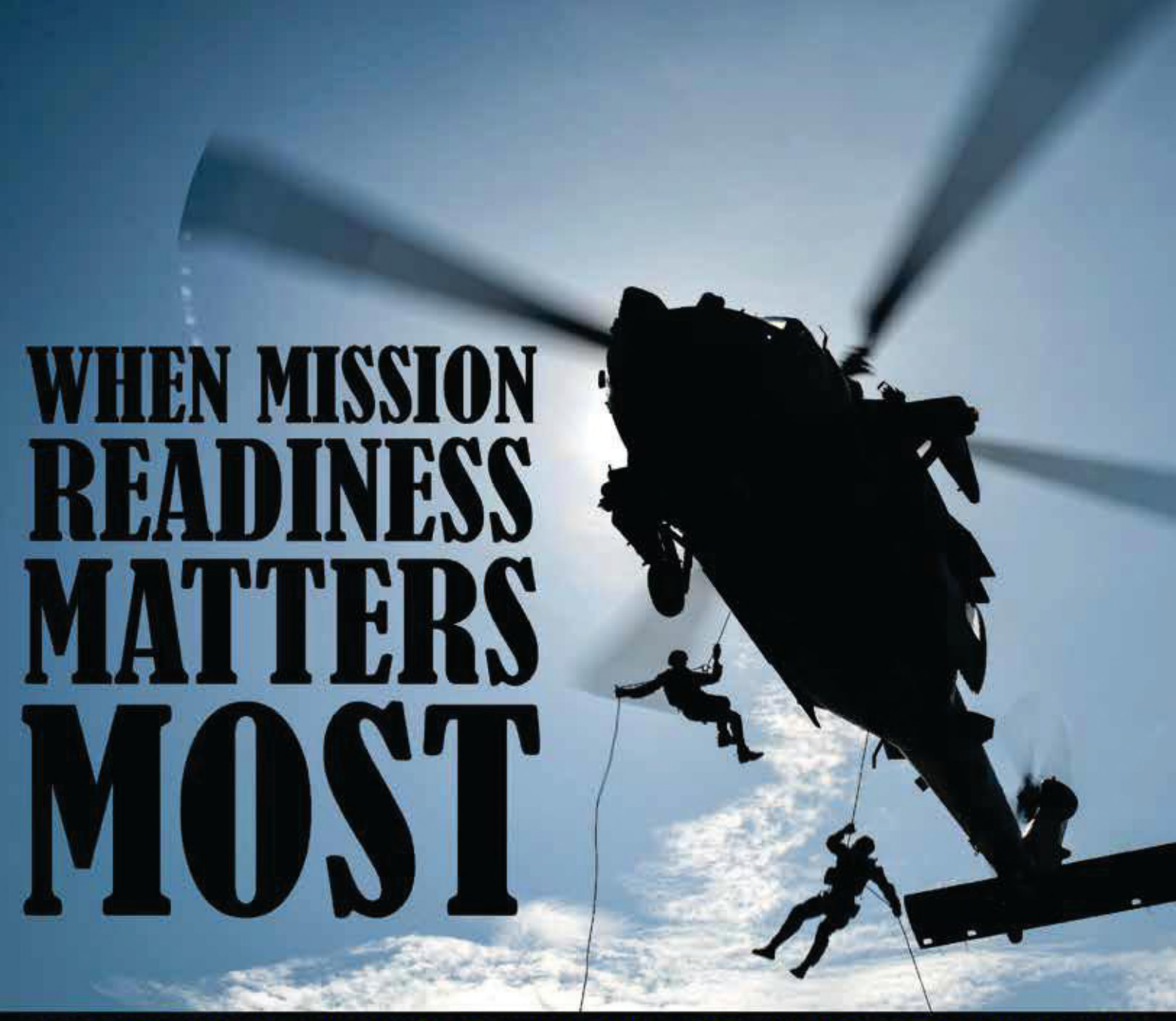
- Fast Rope Insertion (FRIES) operations with Naval Special Warfare operators at a Military Operations in Urban Terrain (MOUT) site on Ft. Knox, performing both day and night iterations with Night Vision Goggles (NVG).
- Military Free Fall (MFF) operations at 12,000 ft. altitude over Ft. Knox, with the 5th Special Forces Group.
- Military Static Line parachute operations over Ft. Campbell, KY.
- Water bucket (Bambi) operations to build proficiency in fighting fires with helicopters. The unit utilized both standard and "long line" water buckets that extended over 100 ft. below the helicopter for use in large wildland areas. These buckets are used to extract water from resources that are under normal circumstances deemed inaccessible. Each of the 8-229th AHB's aircrews are equipped and prepared to conduct helicopter firefighting operations under both day and night conditions.
- Night Vision Goggle (NVG) Air Assault infiltration on target areas in support of Special Operations Force operators.
- External fuel tank training for new aircrew members and familiarization with the Extended Range Fuel System, effectively doubling a helicopter's fuel load for extended operations.
- Routine multi-ship flight operations to prepare for operational deployments as well as Air Assault operations.
- Support of the Sabalauski Air Assault School in continued partnership with the 101st Airborne Division.
- Forward Arming and Refueling (FARP) operations in conjunction with aerial gunnery during this summer's Extended Combat Training (ECT) at Ft. Knox.

The 8-229th AHB's hard work and dedication to the mission is embedded in the unit's DNA. Successful training events after a demanding deployment overseas is not by happenstance. Every Soldier's attentiveness, expertise and fortitude is put to the test as these events are a culmination of hours upon hours comprised of planning, rehearsals, briefs and simulations leading up to each event.

"Supported ground units can plan and execute their training more effectively, efficiently and safely by knowing what capabilities we possess," said CW3 LaCombe. "How proficient we are in a training environment sets the tone for everyone's mission success. We perform to the same standard regardless of what 8-229th AHB event we're tasked with."

As the 8-229th AHB closes out the fiscal year, they are not letting off the pedal as the unit is busy preparing for its next mission and the upcoming year, which means as a team staying individually and collectively ready.

CPT Carlo Aragoncillo is the 244th ECAB Public Affairs Officer at Joint Base McGuire-Dix-Lakehurst, New Jersey.



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Maintaining Safety in AIT

By SFC Christopher N. Wilmot

Safety in an advanced individual training (AIT) environment is a two-pronged attack whose battle lines are parallel and separated only by a hands-breadth of air.

U.S. ARMY 128TH AVN. BDE. PHOTO

AIT students learn property safety techniques as part of their training at Joint Base Langley-Eustis, VA.

Two separate yet conjoined efforts are required to develop the environment properly and efficiently. The Army Safety Program, as required in AR 385-10, and TRADOC Command Safety Occupational Health Program, and enforced in TRADOC Regulation 385-2, join together along with specific Unit SOP and academic Programs of Instruction (POI) to guide safe training within the organization. These efforts highlight the unique mission that the 128th Avn. Bde. has within the Aviation Safety realm.

The safety of students is paramount to the Phoenix Brigade's mission success. When assigned to the 128th Avn. Bde., all incoming personnel are instructed, during the Cadre Training Course (CTC), that the Brigade's overarching mission is to safely train the newest members of the Aviation Profession. Much like an operational aviation brigade, the training brigade has an aviation safety officer with each subordinate battalion fielding their own safety officer. This team is dedicated to identifying and mitigating hazards through constant risk management and clear, consistent communication to all personnel in the formation. U.S. Army Forces Command relies on the team at Joint Base Langley-Eustis to timely deliver healthy and well-trained rotary-wing maintainers to fulfill its essential manning requirement. This obligation generates the need for the strictest safety standards and constant vigilance throughout AIT.

Setting the safety standards baseline of our newest Aviation professionals is certainly critical and highly influential in maintaining the readiness and airworthiness of the Army's aircraft fleet. The brigade's instructors teach and enforce safety throughout each block of instruction (BOI). Whether trainees are in an air-conditioned classroom, on the hangar floor with hands-on instruction, or conducting a field training exercise reinforcing basic soldiering tasks and drills, the classes focus on safely completing each task. This safety message is reinforced every day through multiple safety briefs and constant supervision by Instructor teams.

The two biggest threats to student safety are lack of knowledge and complacency. Our students come from all walks of life. Students range from some having extensive knowledge of tools and machines, to others having never seen the most basic tools in action. It is not unusual to ask a new class about their experience level and find a student who has never turned an open-end wrench for a complete rotation. Having students of multiple experience levels poses a challenge to instructor teams as they must teach each student to the standard. Each program of instruction (POI) has a complete BOI dedicated to shop and hangar safety where the students are given the information and knowledge on how to safely operate in a shop area. This first class on shop safety might be the most significant instruction a student will get during AIT and it is of the utmost importance that the Instructors set the example on how to conduct their mission safely and efficiently.

Complacency kills. Anyone who has been in Aviation for any length of time knows and feels this. This is even truer when doubled with personnel who are unaware of the risks. One of the largest challenges cadre have in the AIT environment is staying ahead of the hazards that complacency brings. It takes an enormous amount of time and energy to keep both the students and Cadre safe from falling into the trap that repetitive iterations of a task can bring.

It takes a collaborative and engaged effort by all levels of leadership to ensure the focus of safety in both the Aviation realm and training realm remains a top priority. The instructors of the 128th Avn. Bde. remain constantly vigilant to the hazards induced by this specific environment and the positive effects of those efforts will be felt in Army Aviation for years after a student graduates.

"Born Under Fire!"

SFC Christopher N. Wilmot is the battalion safety officer for 2-210th Aviation Regiment, 128th Aviation Brigade, Joint Base Langley-Eustis, VA.

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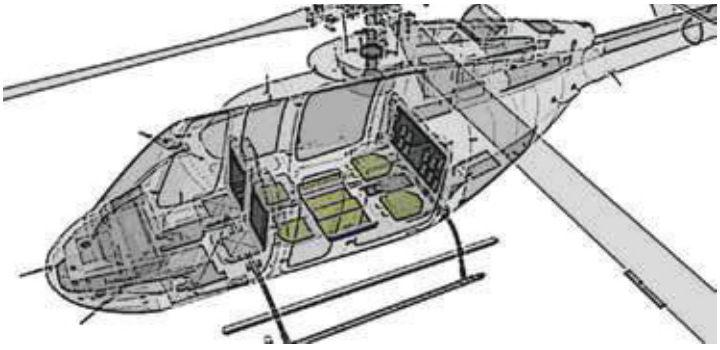
Armor Ballistic Protection System (BPS) Airworthiness Qualification

By Mr. Phuc Nguyen

The U.S. Army Combat Capabilities Development Command Aviation & Missile Center (CCDC AvMC) has long been the airworthiness qualification authority for armor BPS systems that are installed on Army helicopters.



CCDC AVMC GRAPHIC

Many Army helicopter variants are currently equipped with BPS that provides protection for the pilot and copilot and other occupants as well as major flight critical components flying in a hostile environment. The BPS provides protection against armor piercing ammunition and other small arms ammunition ranging from small to medium caliber typically seen on the battlefield.

There are many types of armor systems manufactured by different companies currently being fielded in Army helicopters, all of which have undergone a stringent qualification process under the supervision of CCDC AvMC and the CCDC Army Research Lab.

The Process

The qualification process includes a series of requirements that a manufacturer must comply with. It starts with providing a detailed description of their armor approach, coverage areas, geometry, materials make-up, construction, and installation method to

establish the qualification baseline and to assess aircraft safety of flight (SOF) and personnel safety.

The manufacturer must also conduct an analysis of the proposed armor material and construction process, its planned location within the aircraft, and its planned usage within the operational and storage environment of the aircraft system specification. The analysis must address operational and storage environmental conditions that may affect armor functional performance, crew safety, and SOF of the aircraft. Exposure to environmental conditions must not cause a loss of structural integrity (within the armor panel itself or attachment to the aircraft) that can lead to armor performance degradation resulting in crew injury, aircraft critical component damage, or loss of the aircraft.

As a culmination of the qualification process, a manufacturer must demonstrate that its proposed armor system can perform the required ballistic resistance function when it is installed and operated under a host aircraft's operational environment after going through hot or cold storage procedures. This is accomplished by subjecting the armor panels to environmental preconditioning tests before conducting ballistic tests to determine the ballistic limit.

The ballistic limit is the minimum velocity (V_{50}) at which a projectile is expected to consistently, completely penetrate armor of a given thickness and physical properties at a specified angle of obliquity. Because of the expense of firing tests and the impossibility of controlling striking velocity precisely, statistical approaches are necessary, based on limited firings. This approach leads to the approximation of the V_{50} point. It is this V_{50} number that determines if the armor system has successfully passed ballistic testing.

Testing

Qualification testing is normally conducted either at a government test facility or an independent third-party test facility to avoid bias. Another important aspect of the V_{50} testing is the test fixture and panel mounting technique. Test fixture should adequately simulate the aircraft installation of the armor panels. The test fixture must be capable of mounting the test specimens with rigidity equal to or greater than the aircraft actual installation of the part. Loosely mounted test panels artificially increase the V_{50} performance. Often, government representatives participate on V_{50} ballistic qualification testing to provide onsite support and to ensure the test is being conducted properly.

As a final check before fielding, a ballistically qualitied BPS system is subjected to a form and fit check to ensure the whole system fits where it was intended to be installed and that there is no interference with other aircraft systems such as flight controls.

Conventional armor materials are typically made of steel and other hard metals. While these hard materials provide good ballistic protection, they are often heavy and cumbersome. As the armor industry grows and more advanced innovative technology evolves, coupled with the need for the Army to save weight on its helicopter, manufacturing companies have developed better and lighter armor materials. The CCDC AvMC plays a major role in ensuring new armor technologies are safe and meet performance capabilities to protect the war fighter in combat.

Mr. Phuc Nguyen is an electrical engineer in the Mission Equipment Division of the System Readiness Directorate, CCDC Aviation and Missile Center, Redstone Arsenal, AL.

Intimate Partner Violence

By CPT (Dr.) Gurdeep Buttar

Military service presents unique psychological, social, and environmental challenges that can strain families and relationships within it.

Of considerable public health significance is intimate partner violence (IPV). IPV encompasses a range of physical, sexual, or psychological harms or stalking behavior by a current or former partner along a spectrum of severity. According to the Centers for Disease Control (CDC), 1 in 4 women and 1 in 7 men will experience physical violence by their intimate partner at some point during their lifetimes. About 1 in 3 women and 1 in 6 men experience some form of sexual violence during their lifetimes. IPV affects over 10 million people in the U.S. each year with 5 million acts of domestic violence occurring annually to women 18 years old and older, and 3 million acts involving men. Productivity losses and costs attributable to IPV are significant, with 13.5 million workdays lost and $8.3 billion spent per year in the U.S. IPV accounts for 15% of all violent crime, of which 19% of these cases involved a weapon. However, only 34% of people who are injured by their partners receive medical care.

With respect to IPV, the U.S. military has considerably higher rates than the general population. Several studies estimate that IPV prevalence among male active duty service members range from 13.3-47% while among male Veterans, 13.5-42%. Among active female service members, the rates are 17-39%, and 21.9-74% for female Veterans. According to the VA's Domestic Violence Task Force, the overall 12-month prevalence of IPV perpetration among active duty service members was 22%, and victimization was 30%. Unfortunately, IPV cases are thought to be severely under-reported.

In the 2017 annual Military Family Lifestyle Survey, 15% of military and Veteran family respondents stated they did not feel physically safe in their relationship. Most importantly, 87% of military spouse respondents did not report their physical abuse most often citing that they "did not feel it was significant" or they "did not want to hurt their spouse or partner's career." Ninety-one percent of Veteran spouse respondents did not report physical abuse citing embarrassment as their top reason. Other reasons for not reporting IPV include fearing spouses would lose financial support or benefits, lack of confidentiality, or fear for their own careers.

Risk Factors

Individual risk factors that lead to IPV include, but are not limited to low self-esteem, low socio-economic status, young age, heavy alcohol/drug use, low academic achievement, anger/hostility, antisocial & borderline personality traits, post-traumatic stress disorder, poor impulse control/aggression, prior history of being physically abusive, desire for power and control in relationships, prior child & sexual abuse, witnessing IPV between parents as a child, belief in strict gender roles, social isolation, unemployment, poor parenting and physical discipline as a child, and unplanned pregnancies.

UCMJ Offense

It is important to note, as of 2019, domestic violence is now a distinct offense in the UCMJ. Under UCMJ Article 128, any person who commits a violent offense against a spouse, intimate partner, or immediate family member with intent to threaten, intimidate (including psychological/emotional), or commit a violent offense against that person---has committed assault and shall be punished as a court-martial (forfeiture of pay, confinement, restraining order, reduction of rank, and dishonorable discharge). The perpetrator may also be subject to state and federal criminal/civil laws. Military/civil protective orders may be needed for your safety.

Prevention

So, how can IPV be prevented? There are a number of national resources available that include the following: the 24/7 National Domestic Violence Hotline (*www.thehotline.org*, 1-800-799-7233) and the National Coalition Against Domestic Violence (*www.ncadv.org*). Military resources include the Family Advocacy Program (FAP) that is available at every military installation (*https://installations.militaryonesource.mil*). FAP provides both clinical and non-clinical services to prevent and respond to domestic abuse, child abuse, neglect, and problematic sexual behavior in children and youth.

The DoD has a 24/7 Safe Helpline (*https://www.safehelpline.org*, 877-995-5247) and offers crisis support service affected by sexual assault. The VA has the IPV Assistance Program (*https://www.socialwork.va.gov/IPV/Index.asp*), which draws on resources addressing mental health, women's health, primary care, and veterans' justice outreach. Finally, the newly created Strength at Home Men's Program (SAH-M) is a 12-week, cognitive-behavioral, trauma-informed group therapy program for active duty/Veterans who engaged in recent IPV.
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.

CPT Gurdeep Buttar, M.D. is a flight surgeon at the School of Army Aviation Medicine, Fort Rucker, AL.

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Army Aviation Policy for Advanced Manufacturing

By Ms. Cassandra Moore

As the U.S. Army Aviation and Missile Command (AMCOM) and the Army fast approach, advanced manufacturing (AM) is already here. Not only is the Army exploring AM methods and 3D-printed parts to maintain and sustain its aviation fleet; industry has already moved out on the subject. Advanced manufacturing holds great promise and we need to take advantage of the opportunity, but we also need to ensure that our aircraft are safe to fly. Until recently, there was no written airworthiness policy or guidance on AM.

On 22 May 2020, AMCOM published a policy memorandum (AMCOM Policy No. 070-062) addressing advanced manufacturing for Army aircraft parts, components and support products. "Evolving technologies create both challenges and opportunities to enable readiness. The advanced manufacturing airworthiness policy is crafted to take advantage of new technology, but ensure the safety of the fleet," said AMCOM Commander MG Todd Royar, who serves as the Army's airworthiness authority, responsible for ensuring the safety of the service's aircraft.

U.S. Army PFC Jimmy Roe, assigned to Bravo Company, 299th Battalion Support Brigade, Dagger Brigade, operates the Lulzbot Taz 2 Hard Plastic 3D Printer that is a part of rapid fabrication via additive manufacturing (R-FAB) on the battlefield.

AM Capability is Here Now

Two reasons necessitated the policy. First, industry is already using AM and second, the capability to manufacture parts is here now. The Improved Turbine Engine Program (ITEP) is an example of industry already using the technique. ITEP includes a number of AM components. "ITEP benefits from advanced manufacturing include reduced cost, reduced weight, increased durability and enhanced performance when compared to traditional manufacturing methods," said COL Roger Kuykendall, Project Manager for Aviation Turbine Engines. "The benefits of AM stem from the unique capability to produce more complex hardware shapes while simultaneously reducing part count."

ITEP is just one example, but industry is already taking full advantage of the capability and we expect to see extensive


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use of it in both U.S. Army Future Attack Reconnaissance Aircraft and Future Long-Range Assault Aircraft.

The second reason is that we already have limited capability to execute AM in the Army today. The majority of our brigades have one or more Computer Numerical Control (CNC) machines that can make parts today. At the Army level, the Joint Manufacturing and Technology Center (JMTC) at Rock Island Arsenal is rapidly expanding its capability and will be able to manufacture more complex parts requiring greater precision.

Airworthiness Remains the #1 Priority

Just because a part may be able to be milled or printed to fit like the original using AM, it may not have the same structural properties. The type of material used and whether other processes were used (e.g., heat-treated, shot-peened, etc.…) make a significant difference. Because of these issues and the fact AM processes still have a relatively wide variance in tolerances, an airworthiness policy was needed to guide how we qualify parts using AM techniques.

The fine details of the airworthiness policy were crafted by a team of engineers at the U.S. Army Combat Capabilities Development Command Aviation and Missile Center, led by Chris Hodges, Associate Director for Airworthiness-Technology. Hodges said the new policy was drafted after his team collaborated with stakeholders from across the aviation enterprise, reaching across Army organizations and out to sister services and the Federal Aviation Administration. "We considered a lot of input and ultimately organized expectations and requirements by category, spanning from tools and shop aids to critical safety items," Hodges said. "The resulting policy sets a solid foundation with room to grow and fill in details as the story evolves."

For Army aviation applications, AM parts and components are now managed under six categories that range from articles that support maintenance operations to those aviation critical safety items, whose failure would result in unacceptable risks. The designated categories will prescribe for engineers and manufacturers the allowed materials and appropriate testing methodology for each particular part.

It is critical to note, that until our processes fully evolve, units desiring to AM any part must contact a liaison engineer first and receive approval.

What the Future Holds

AM will be part of our future as a complement to the traditional supply system. To that end, we are starting to systematically evaluate many of the parts in our enduring fleet and then qualify those appropriate parts for AM. If the government has the appropriate intellectual property, units will be able to make select parts on the battlefield by accessing the appropriate files from the database and downloading them into their CNC or other AM machines. Other more complex parts, requiring tighter tolerances, will be produced at JMTC and then sent forward. Bottom line is that we will be able to get a fully qualified part to the mechanic that needs it faster.

The aviation enterprise is committed to getting the maximum benefit out of AM. The Airworthiness Policy will evolve over time but has set the framework for how we collectively realize the benefits while also ensuring the safety of our aircrews and those we fly.

Ms. Cassandra Moore is an aviation and missile program integrator within the U.S. Army Aviation and Missile Command (AMCOM) G-3S, Strategy and Systems Integration at Redstone Arsenal, AL.

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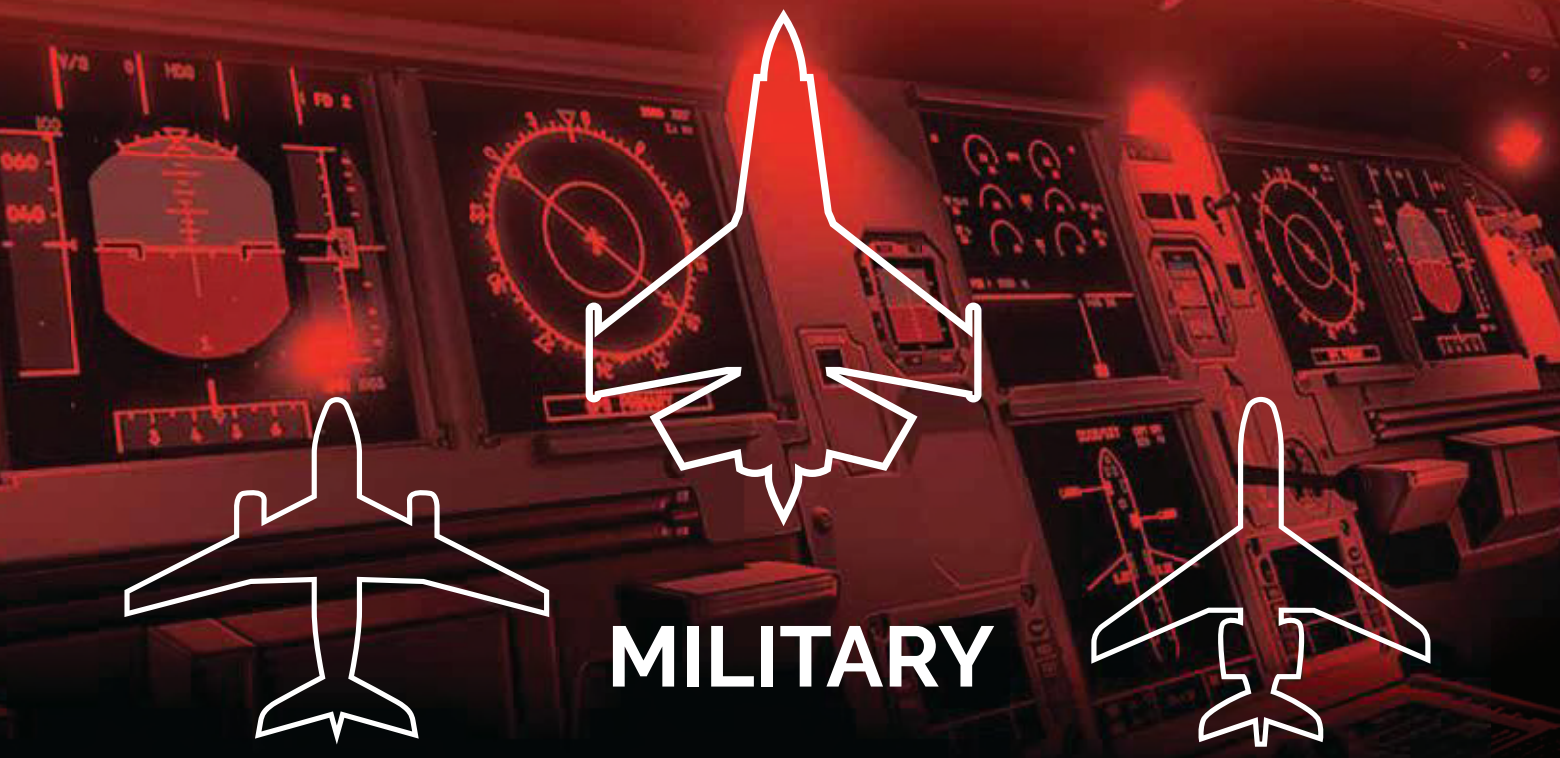

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Aviation Mission Systems and Architecture (AMSA) – Continuing to Evolve

By COL Johnathan Frasier

New SCAMP fielding at Fort Bragg, North Carolina.

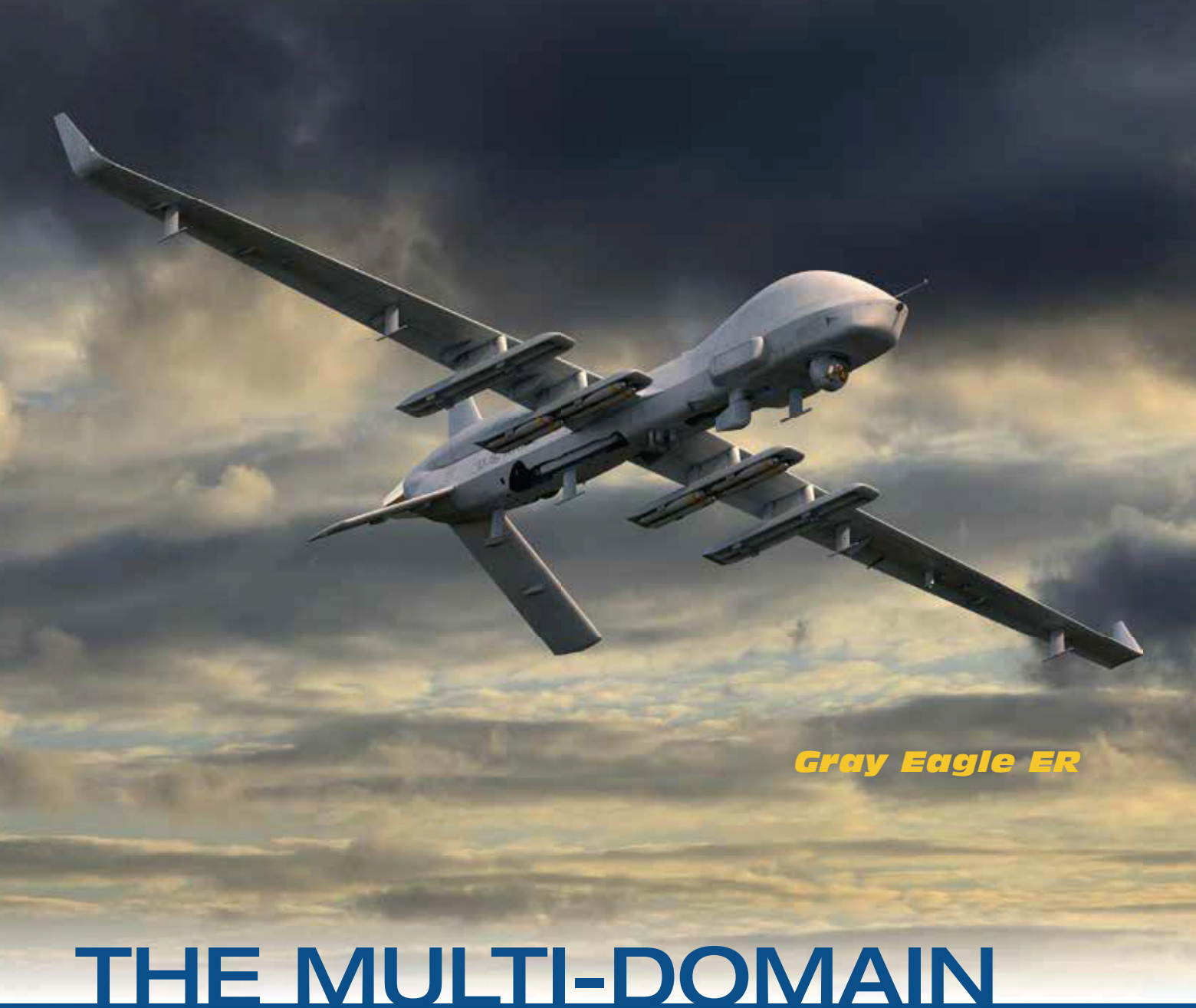
ALL PHOTOS U.S. ARMY PHOTO

In today's unprecedented times, the United States Army must be prepared to answer our nation's call, with a renewed vision focused on Large Scale Combat Operations (LSCO. This realization was the genesis of the reorganization of the Aviation Systems Project Office 18 months ago, now PM Aviation Mission Systems and Architecture (AMSA). AMSA continues to manage a diverse capability set of 49 distinct product lines for Army Aviation, spanning communications, navigation, maintenance, planning and execution tools, and Air Traffic Control; however, over the past 18 months, AMSA's mission set has evolved with a new focus to enable integration across the Aviation Enterprise. This new mission is synchronized with the Army's transition to Multi-Domain Operations (MDO), and the necessity to enable Joint All Domain Command and Control (JADC2) on the Multi-Domain Battlefield (MDB). PM AMSA realigned its product offices to provide seamless coordination with critical stakeholders to ensure future Army Aviation concepts are realized as game changing capabilities on the MDB.

Protect the Force

As part of its new mission, the ***Assured Airspace Access Systems Product Office*** (A3S, formerly the Air Traffic Control Product Office), coordinates directly with the Assured Precision, Navigation, and Timing Cross Functional Team (APNT CFT) to ensure Army Aviation maintains uninterrupted navigation and timing information capabilities on the MDB. The Multi-platform Anti-jam Global Positioning (GPS) Navigation Antenna (MAGNA) and Enhanced Aviation, Global Air Traffic Management (GATM), Localizer Performance with Vertical Guidance (LPV), Embedded GPS/Inertial Navigation System (EGI) (EAGLE) M-Code (EAGLE-M) are signature efforts to ensure Army Aviation can fight and win in a GPS contested environment. MAGNA is a small adaptive GPS anti-jam antenna system comprised of Controlled Reception Pattern Antenna and antenna electronics. The MAGNA reduces the effect of GPS jamming and ensures the Warfighter's continued access to GPS-provided position, navigation, and timing in a GPS degraded environment. The EAGLE-M is the next generation navigator for Army Aviation and will provide enhanced protection on the MDB by utilizing Military Code (M-Code) signal vice the current Selective Availability Anti-spoofing Module (SAASM) signal used today. Finally, A3S is evaluating concepts for Alternate PNT solutions to ensure Army Aviation can fight and win in a GPS denied environment.

The Aviation Ground Support Equipment (AGSE) Product Directorate continues to provide exceptional support to Army Aviation maintainers and aircrews. Over the past year,



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AGSE started fielding the Self-Propelled Crane, Aircraft Maintenance and Positioning Increment II Expeditionary Crane (SCAMP II) to Combat Aviation Brigades (CAB), greatly expanding the CABs' maintenance capability.

In addition to this new capability, AGSE modified and fielded modernized Flexible Engine and Diagnositc Systems (MFEDS) to Fort Rucker, Fort Bragg and Fort Campbell. This modernized system greatly expands the maintenance capability to test legacy and future digital engines. AGSE also initiated a procurement effort to provide a new Aviation Ground Power Unit (AGPU 1.1) that will meet all CH-47F requirements, as well as support enduring fleet aircraft. The AGPU 1.1 will bridge the gap as the requirements for Future Vertical Lift continue to mature. This new AGPU 1.1 will offset the burden experienced by today's maintainers during multiple CH-47F maintenance tasks as well as provide a more reliable and maintainable system to support flight operations.

Enable the Future Force

In addition to providing capabilities that help protect the force, AMSA is responsible for enabling the future Aviation force. The ***Aerial Communications and Mission Command Product Office*** (ACMC, formerly the Aviation Mission Equipment Product Office) coordinates directly with the Network CFT and other Program Executive Offices (PEOs) for all things Mission Command (MC), Common Operating Environment (COE), and communications. These coordination efforts are essential to ensure seamless interoperability for Army Aviation on the MDB and that Aviation remains nested within the Army's network. The Air Ground Network Radio (AGNR) capability will provide a multi-channel, crypto-modernized, software-defined radio that allows for a more rapid introduction of emerging waveforms directly supporting Unified Network Operations, Air/Ground Convergence, Joint Interoperability, and the Mobile User Objective System (MUOS) waveform. This capability will ensure that Army Aviation remains in synch with ground radio capabilities, ensuring Army Aviation can communicate with the Soldiers that it supports. The first flight demo of AGNR will occur in October 2021. In addition to AGNR, ACMC will begin fielding a crypto modernized version of

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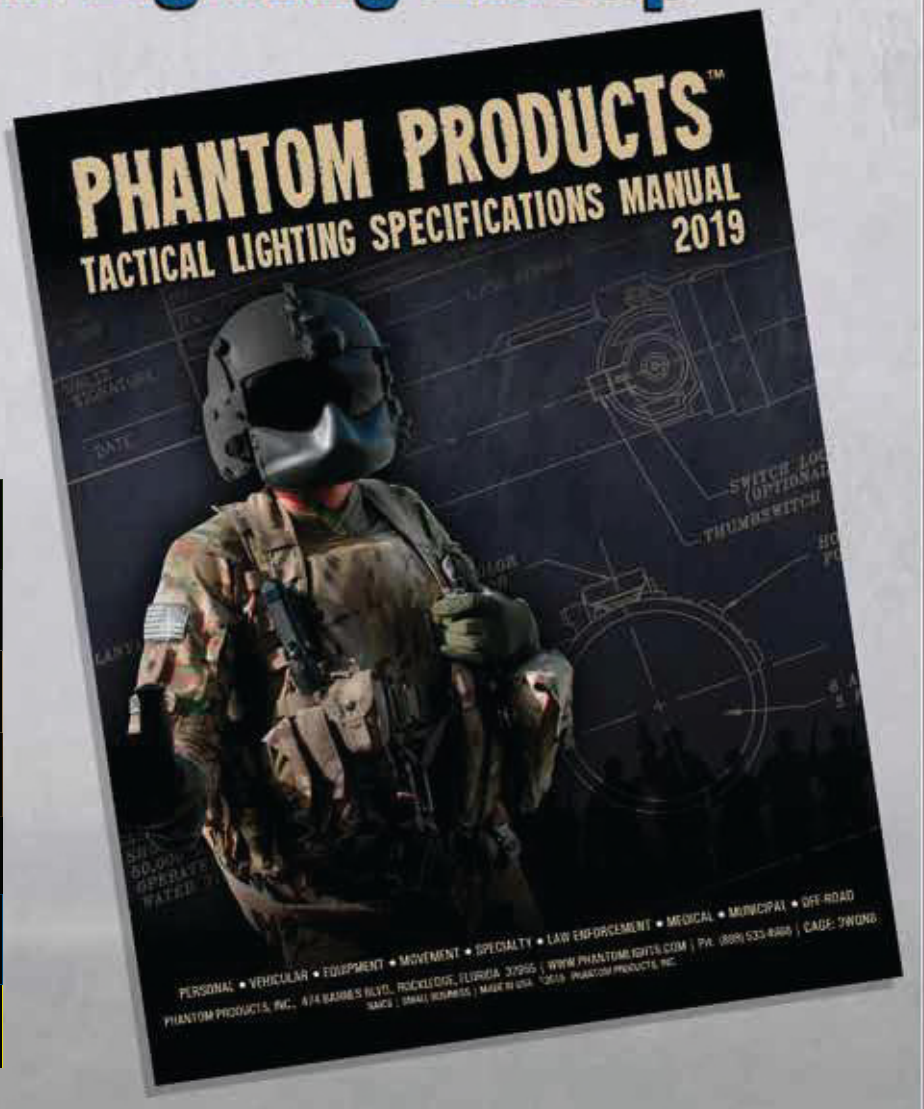

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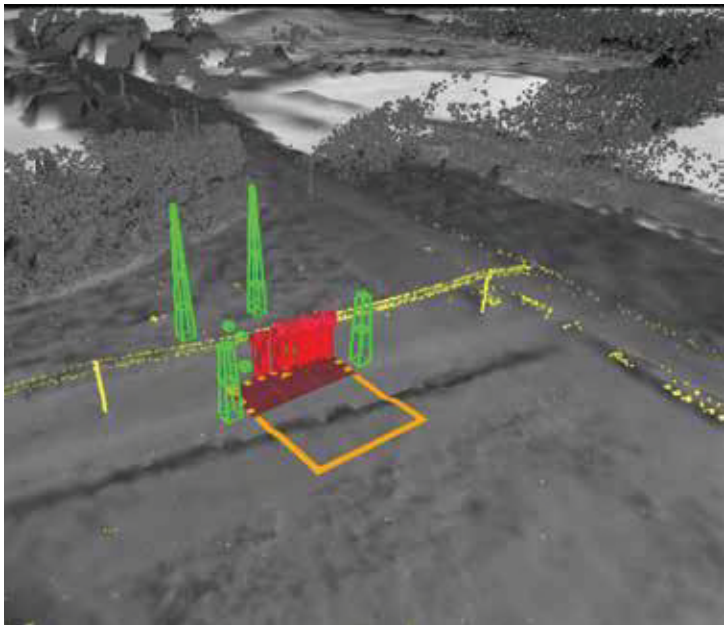
Certainly secure, advanced communications is a key enabler for MDO, but the ability to dynamically plan, execute, and share a common operating picture (COP) to include airspace will be a critical enabler on the MDB. Because of this, ACMC is reimagining both the Aviation Mission Planning Station (AMPS) and the Tactical Airspace Information System (TAIS) capabilities to further converge into the COE to meet Mission Command needs. Combined, these efforts will enable JADC2 and allow Army Aviation to operate as a critical node on the MDB.

Finally, AMSA is responsible for creating a seamless architecture for Army Aviation that optimizes integration across the Aviation Enterprise. The ***Aviation Architecture and Environment Exploitation Product Office*** (A2E2, a merger of the old Aviation Networks and Mission Planning and Degraded Visual Environment (DVE) Product Offices) coordinates across PEO Aviation to provide the future architecture for Army Aviation. This work is tightly nested within the Future Vertical Lift Architecture Collaboration Working Group (ACWG). The Aviation Mission Common Server (AMCS) is the initial instantiation of an Open Systems Approach (OSA) digital backbone that will provide scalable hardware, software, and an operating environment for the Enduring Fleet to enable rapid onboarding of mission systems. Additionally, AMCS will provide a decentralized mission processing architecture capable of distributed processing among multiple nodes. It will host all networking capability, software application-based solutions, and sensor processing and fusion needed to compete and win against near-peer threats. AMCS will allow Army Aviation to achieve the tenets of Agility- rapidly onboard technology through common standards and interfaces, Adaptability– rapidly respond to the ever-changing threat, and Affordability– bypass costly Operational Flight Profile (OFP) updates, as we seek to transform the AIMPOINT Force for the MDB.

In addition to the AMCS capability, A2E2 continues to upgrade aircraft with the Degraded Visual Environment capability in support of the Directed Requirement (DR). DVE-DR capability will greatly enhance Army Aviation's ability to dictate where and when it fights on the MDB by providing enhanced situational awareness to the aircrew in degraded environments. The current DVE-DR capability creates 3D apriori data utilizing Digital Terrain Elevation Data (DTED) Level 2, overlaying 2D Infrared (IR) camera sensor imagery and fusing with near real-time 3D Light Detection and Ranging (LiDAR) sensor data. The system also renders 3D conformal symbology to provide additional situational awareness during all phases of flight. The current DVE-DR capability is being installed on Medical Evacuation aircraft for near term deployment and an operational assessment. With rapidly evolving technology and development of an OSA digital backbone, the future DVE capability will provide a true game-changing capability for Army Aviation on the MDB.

Relevant and Responsive

AMSA remains committed to provide exceptional support to the Soldiers who use our capabilities every day, while continuing to execute targeted modernization when able. However, as the United States Army continues to evolve, so too does AMSA. Over the past 18 months, AMSA has undergone an organizational transformation as well as a mission transformation in order to meet Army Aviation's needs



Alternate view of fouled landing zone with obstacle detection (e.g., wires) and reference towers for landing and take-off in DVE.

on the MDB. With new missions to provide an OSA approach to onboard future capability along with reimagined approaches to converge capability development to ensure seamless interoperability on the MDB, AMSA remains relevant and on the cutting edge of capability development to ensure Army Aviation and our Soldiers are never in a fair fight.

COL Johnathon Frasier is the Aviation Mission Systems and Architecture Project Manager, Program Executive Office Aviation located at Redstone Arsenal, AL.

Product Manager Air Warrior 2020: Update to the Field

By LTC Bryan Bogardus

ALL PHOTOS BY LTC BRYAN BOGARDUS

An 82nd Combat Aviation Brigade crew chief wearing the ACE.

Fiscal Year 2020 has certainly presented both challenges and opportunities to the Product Manager Air Warrior (PM AW) Office. The PM AW team continued to field new Aviation Life Support Equipment, develop follow-on capabilities, and respond to urgent mission needs, including rapid response support for force protection measures to maintain the health and safety of the aviation Soldier and the AW workforce.

Air Soldier System

Highlights for FY20 include the Air Warrior team's continued fielding of Air Soldier System (Air SS) capabilities to both aircrews and aircraft. Army Aviation Soldiers received the new Rotary Wing Helmet and Lightweight Body Armor, 72 Hour Survival Items, and the Electronic Fight Bag (EFB). The team also continued to modernize the existing fleet by installing the new Air SS Helmet Mounted Display system upgrade in the UH-60L and UH-60M aircraft, all while supporting inquiries from the field and assisting aviation life support equipment (ALSE) technicians in solving problems. And as always, the AW team also pressed forward to complete the development and test of follow-on Air SS capabilities, including the Aircrew Combat Equipment (ACE), which is the next capability to be delivered.

The current ***Air Warrior Primary Survival Gear Carrier (PSGC)*** has been in the field since 2004. Feedback from the field indicated a change was needed, and the Air Warrior team began work on the next generation Army aircrew mission and survival vest, the ACE. Our team included aviation Soldiers, survival equipment manufacturers, government and industry engineers, and ALSE techs. Through visits with active duty units, risk reduction events, and user surveys, the team fine-tuned the ACE design and ultimately arrived at the final configuration currently going through qualification testing. ACE will undergo an operational test with the 25th Infantry Division Combat Aviation Brigade in April of 2021, and fielding will follow immediately.

The ***Aircrew Combat Equipment*** includes an integrated full body harness, ballistic protection, and an innovative flotation system in the form factor of a cummerbund that eliminates the legacy LPU flotation collar- and based upon Soldier feedback, a most welcome change for the Apache community in particular. As its predecessor, ACE is modular and can be customized for regional climatic or over water missions.

The biggest reduction in weight and bulk, and another source of positive feedback, is the design of the integrated body armor. ACE adopts the ***Modular Scalable Vest (MSV)*** armor from the ground force MSV Gen II protection system. This armor meets all Army requirements while reducing weight and bulk and increasing flexibility. The soft body armor is integrated into the flight vest, eliminating excess layers of fabric. This significantly reduces the weight and bulk of the ACE and increases freedom of movement and mobility.

Another change from the legacy PSGC the ACE brings to the field is removable leg straps. Although an extraction capability is required for flight missions, a removable strap design permits the crewmember to comfortably wear ACE on the ground in locations where body armor is required. As the ACE now incorporates the same basic body armor worn by the Infantry Soldier, the PM AW is coordinating with our Army Aviation Center of Excellence counterparts to determine if the ACE may remove the need for aircrews to be issued a second set of body armor when deployed.

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Nett Warrior-Aviation

Situational awareness (SA) is a key enabler for the Aviation warfighter. A new product from PM AW will provide aircrews with a new level of SA using commercial handheld devices that leverage secure wireless technology. Known as Nett Warrior – Aviation (NW-A), it's an adaptation of the fielded Nett Warrior system utilized by Army ground forces. The enabling software for NW-A is the Tactical Assault Kit, which provides maps, precision targeting, surrounding land formations information, navigation, and SA.

NW-A will provide aircrews with not only a common operational picture (COP), but also enables data- and eventually voice communication- with any entity depicted on the COP of the handheld end user device (EUD). The current COP available to most Army aircrews is comprised of Blue Force Tracker (BFT) entities, which supported ground forces may have limited capability to leverage. NW-A will enable an Infantry Soldier and an air crewmember within line of sight (LoS) of one another, or with any other comparably equipped Soldier or aircraft, to tap an icon on their EUD and send/receive data messages. In future increments, voice over internet protocol (VoIP) will enable direct voice communication.

Integrated Visual Augmentation System

Another future capability for the AW team is the leveraging of the PEO Soldier's Integrated Visual Augmentation System (IVAS) for aircrew use. Initially focused on the Army ground close combat forces, the PM AW team is investigating how to best implement this leap-ahead technology for use by the Army aviation Soldier in the cockpits and cabins of Army aircraft. The PM AW envisions IVAS-Aircrew (IVAS-A) as the variant tailored to meet the unique mission needs for both rated and non-rated aircrew members. The current IVAS is a color, binocular, see-through heads up display built on Microsoft's HoloLens technology. It fuses real world, mixed reality, artificial intelligence, and terrain services to enhance Soldier situational awareness.

As we continue to focus on convergence and interoperability, we will leverage next-generation platform sensors, enhanced terrain data products, as well as integrate the common air/ground

ALL PHOTOS BY LTC BRYAN BOGARDUS

Aviators with the 82nd CAB wearing the ACE while performing preflight cockpit checks.

Tactical Assault Kit software enhanced by a robust interface to the Army's new Integrated Tactical Network. This will provide a breakthrough in mission planning, obstacle and Threat position detection, and identification of the safest or most efficient alternate routes. Unlike current heads up displays, IVAS-A will not be just for flight, it will provide pre-mission planning, training, mission rehearsal, mission execution, and after-action review capability.

Moving forward, the Air Warrior team will continue to seek and embrace convergence and interoperability opportunities whenever possible. We continue to work closely with other Product Offices, Program Executive Offices, and Services to ensure we are arming the Aviation Soldier with the best equipment to enable their safety, survivability, and lethality on the battlefield. At PEO Soldier, Precision is the Standard, Every Ounce Matters, and Every Bullet Counts.

LTC Bryan Bogardus is the product manager for Air Warrior located in Huntsville, AL.

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Project Manager Aircraft Survivability Equipment Update

By COL Kevin S. Chaney

I think it is safe to say that the old cliché "not business as usual" has taken on new meaning this year. The Project Management Office, Aircraft Survivability Equipment (PM ASE) continues to weather the impacts of the COVID-19 pandemic. As you would expect, there are varying levels of direct and indirect impacts across the portfolio. Proudly I can say that the ASE Team, working in concert with the Aviation and Acquisition Communities, to include our systems' contractors, has managed to successfully mitigate most of the COVID-19 impacts. In this article, I will bring you up to date on the work we are doing to deliver state-of-art technology today and I will also give you a glimpse of the direction PM ASE is pursuing to ensure our protection strategy is integrated and complimentary with the future of Army Aviation.

Systems Update

PM ASE has started the delivery of new systems that will greatly improve both threat detect and defeat capabilities. These new systems build on proven capabilities such as the AN/AAR-57A Common Missile Warning System (CMWS), Advanced Threat Infrared Countermeasures (ATIRCM), and AN/APR-39 Radar Warning Receiver (RWR) that have provided needed protection for the last decade. The new systems Limited Interim Missile Warning System (LIMWS), Common Infrared Countermeasures (CIRCM), and AN/APR-39 D(V)2 RWR will provide improved capability, and more importantly, are designed to provide agility to adapt to evolving threats and allow the rapid implementation of modernization opportunities. First let's discuss our Missile Warning System.

LIMWS is the Army's newest Missile Warning System. It significantly improves upon the capabilities of CMWS by utilizing infrared (IR)-based sensors to detect incoming missiles and unguided Hostile Fire threats. LIMWS enables us to maintain overmatch of quickly emerging threat technology and tactics by providing increased detection range,

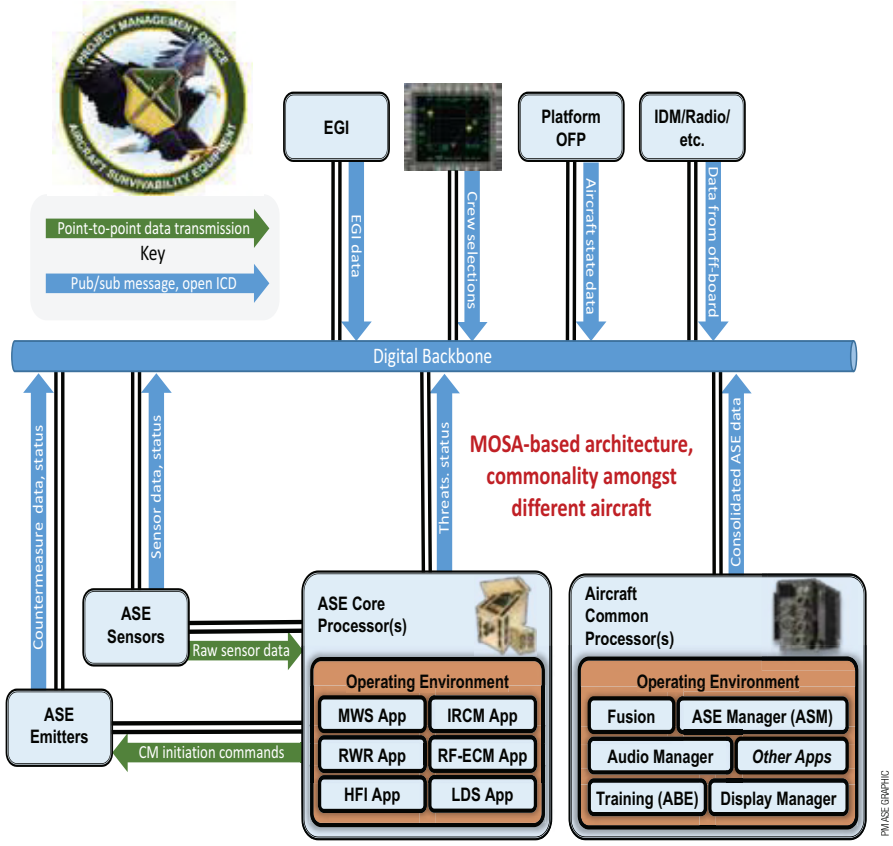
U.S. ARMY PHOTO BY ARMY SGT. JUSTIN ASHAW

Army helicopters participate in an aerial gunnery event at Grafenwoehr Training Area, Germany

est modernization effort in radar warning capability. D(V)2 introduces digital technology and upgrades in processing capability for today's RF threat environment. It provides aircrews with improved visibility of the RF spectrum along with timely visual/aural alerts through significant increases in detection, identification, and prioritization of RF threats. These warnings allow aircrews to break the threat kill chain early.

Last year, we successfully conducted a D(V)2 A-kit installation on the AH-64E. Our team is leveraging the success of this proof of concept and we are delivering the capabilities of the D(V)2 in a limited fielding starting this year.

As you can see PM ASE continues to



work diligently to ensure that the latest Survivability system updates and new systems are fielded to our units around the world. Equally as critical is the development of our next generation Survivability technology and systems.

The Future of ASE Architecture

PM ASE is passionate about our mission to protect Army aircraft and our warfighters. We are dedicated to the continual improvement of ASE capabilities in an ever-changing threat environment to ensure that our mission is successful. In order to keep ahead of the threat, we must find ways to quickly develop and deploy new technologies and integrate them onto our fleet with as little impact to the host aircraft as possible. The Future ASE Architecture is our pathway to achieve that goal.

Based on a Modular Open Systems Approach (MOSA), the Future ASE Architecture will concentrate on the development of critical aircraft survivability applications and state-of-the-art sensor technologies to consolidate ASE capabilities into fewer physical elements resulting in reduced size, weight, power and cooling (SWaP-C) burdens on the host aircraft and ultimately enabling a more effective way to rapidly integrate new capabilities onto the aircraft in response to emerging threats. Moving away from our current approach of a specific Line Replaceable Unit (LRU) and sensor suite for each ASE capability, the Future ASE Architecture will employ multipurpose processor LRUs to host concurrent ASE functions (such as missile warning, laser warning, etc.), while maintaining growth potential to accommodate capability upgrades and new technology. The multipurpose processors will make use of an improved operating system and a multi-core environment to host ASE critical applications developed through extensive cooperation with industry and academic partners. Sensor technology advancement and fusion will be pursued to keep pace with advancing threat development and minimize the overall ASE Outer Mold Line (OML) footprint. By employing MOSA for the necessary interfaces (which will likely include hardware, software, and logical interfaces) and mandating the use of published/open standards when necessary, the Army will be able to retain appropriate data rights, maintain control of the system, minimize vendor lock, and maximize best value solutions.

Whereas legacy architectures have tended to use point-to-point data transmission on a number of disparate interfaces, the Future ASE Architecture will use a much more open approach, utilizing a common, high-capacity digital backbone and a publish/subscribe implementation that uses common, published or government-owned messaging standards. This wider sharing of information allows a more readily reconfigurable and upgradable system for which capabilities can be physically relocated, upgraded or added without having to "re-plumb" the message routing with expensive and time-consuming system-specific A-kit modifications.

The Future ASE Architecture will create an architecture that fulfils our current needs while also having an eye firmly on the future. Many aspects of the next generation ASE architecture are already in development and testing. Engagements with industry and academia are also ongoing with the objective of demonstrating capabilities in FY 22. Risk reduction integrations are planned by early FY 24 with initial systems ready for flight testing in the FY 26-28 timeframe. All this will ensure that PMO ASE is well positioned to offer ongoing technology and capability upgrades for US Army platforms.

To bring this update full circle, it is clear that this year is very unusual, but you can be assured that PM ASE is working hard to ensure COVID-19 doesn't impact our ability to meet the Army's operational requirements. Our pledge is to continue to work closely with all members of the Aviation Enterprise to neutralize COVID related risk. Simultaneously, we remain energized to move forward with the aggressive development of our modernization strategy to ensure we are synchronized and supportive of the future of Army Aviation. I hope all of you continue to remain healthy and are able to join us at this year's AAAA 2020 Aircraft Survivability Symposium in Orlando, FL on 7-8 December.

COL Kevin S. Chaney is the Project Manager for Aircraft Survivability Equipment located in Huntsville, AL, under the Program Executive Office Intelligence, Electronic Warfare & Sensors.

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Survivability: Army Aviation Tactics within Strategy

By CW5 Casey W. Peterson

Joint Aviation Multi-Ship Quick Reaction Team, China Lake, CA.

The current "buzz word" within Army Aviation is "Tactics." But what are tactics and how are they developed? What is the Army Aviation strategy and how is it affected by the Military Decision-Making Process (MDMP)? Lawrence Freedman states in *Strategy: A History*, "Without a strategy, facing up to any problem or striving for any objective would be considered negligent. There is a call for strategy every time the path to a given destination is not straightforward." The obstacles encountered along that path are overcome by implementing tactics. Army Aviation cannot succeed in Large Scale Combat Operations (LSCO) without understanding the strategy and correct application of the tactics, which are two sides of the same coin. As Sun Tzu taught, "Strategy without tactics is the slowest route to victory. Tactics without strategy are the noise before defeat."

The precipice on which Army Aviation now stands is one governed by our adversaries. For nearly two decades Army Aviation has dominated the counterinsurgency (COIN) fight. Don't believe for a second the Army's dependence on Aviation has gone unnoticed. *FM 3-0 Operations,* "As the Army and the Joint Force focused on counter-insurgency and counter-terrorism at the expense of other capabilities, our adversaries watched, learned, adapted, modernized and devised strategies that put us at a position of relative disadvantage in places where we may be required to fight." The United States Army Aviation Center of Excellence (USAACE) Directorate of Training and Doctrine (DOTD) Survivability Branch, Flight Training Branch, Directorate of Evaluation and Standardization (DES), and Aviation Survivability Development and Tactics (ASDAT) are collaborating in holistic changes ushering in a new chapter for Army Aviation.

Strategy, Tactics, and Analysis Team

Within the Army's current strategy, rebuilding warfighting readiness is the top priority. As outlined in *The Army Strategy/ Strategic Approach* (Figure 1, page 55), sustaining that readiness is the Army's vision for 2028. In the proposed revision of the TC 3-04.9 *Commander's Aviation Mission Survivability (AMS) Program*, the Strategy, Tactics, and Analysis Team (STAT) is the Aviation commander's tool to project combat power on a multi-domain battlefield. Consisting of the S-2, Electronic Warfare Officer/NCO (EWO/EWNCO), Master Gunner, and the Aviation Mission Survivability Officer (AMSO); the STAT is an intelligence-based team which focuses on the operational environment and its effects on Aviation.

Operating at the brigade and battalion/squadron levels the team utilizes mission planning systems, electronic warfare, and threat analysis to provide the commander, mission planners, AMCs, and aircrews a full understanding of the enemy's ability to influence Aviation operations while preserving friendly force combat power.

Understanding that strategy execution is adaptive to the complex and dynamic nature of the operational environment, it is the responsibility of the STAT to ensure Intelligence Preparation of the Battlefield (IPB) is thoroughly conducted as part

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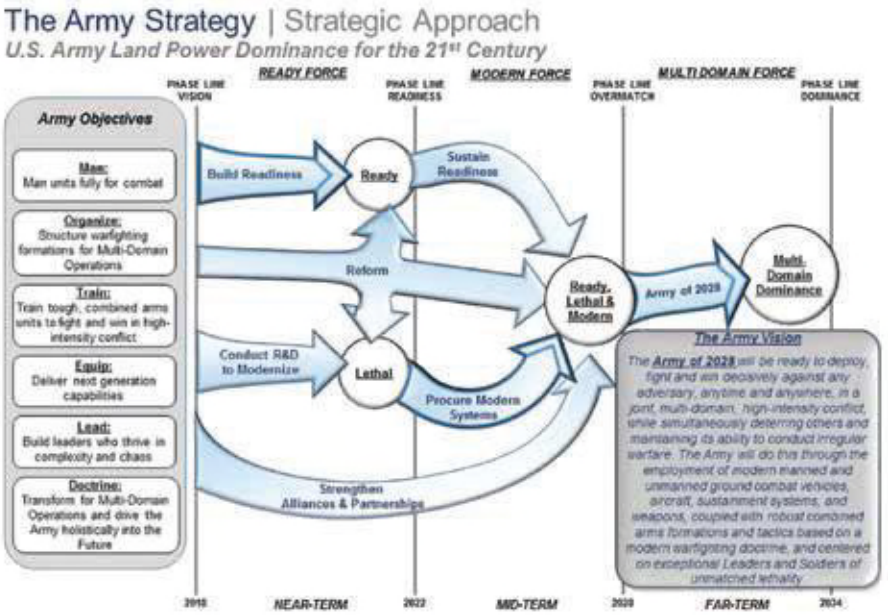

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Figure 1. The Army Strategy/Strategic Approach

of the Fused Mission Planning (FMP) process. The data derived from FMP provides the command staff with essential AMS information for the MDMP and mission planning. The STAT assists the commander in strategy development. Once the commander determines a strategy and end state the STAT, in collaboration with BN and CO unit planners, develops tactics, techniques, and procedures (TTPs) to bridge any shortcomings identified during FMP.

The Path Behind and The Path Ahead

As stated in the unclassified summary of the National Defense Strategy, "Today, we are emerging from a period of strategic atrophy, aware that our competitive military advantage has been eroding. We are facing increased global disorder, characterized by decline in the long-standing rules-based international order, creating a security environment more complex and volatile than any we have experienced in recent memory. In this environment, there can be no complacency, we must make difficult choices and prioritize what is most important to field a lethal, resilient, and rapidly adapting Joint Force. America's military has no preordained right to victory on the battlefield." It is not a matter of "getting back to the basics." The reemergence of strategic competition is not the same threat America has faced in the past. This threat is modernized, adaptive, and lethal and can contest the United States on every domain.

USAACE DOTD Survivability Branch has worked diligently to follow the guidance within the Army's strategy to rebuild warfighter readiness. This includes restructuring of the Aviation AMSO course, updating the AMSO critical task list (CTL), and validating evasive flight tactics through realistic testing.

The Joint Aviation Multi-Ship Survivability Validation (JAMSV)

Quick Reaction Test (QRT), completed this year, tested multi-ship evasive maneuvers validating multi-ship TTPs while retaining freedom of maneuver in an Anti-Access Aerial Denial (A2AD) contested environment. The 3900 series task multi-ship Training Support Package (TSP) is projected for release Q2 FY21. In addition, the branch is revising the TC 3-04.9 as a comprehensive guide for the AMSO to manage the commander's AMS program. AMSOs are responsible for the AMS assessment that measures the survivability capabilities of the unit and gauges the effectiveness of the AMS program. The assessment identifies the status, improvements, and recommendations for unit AMS operations and training. AMSO's primary responsibilities include training Aviators within the unit on tactical employment of the aircraft including AMS evasive flight tasks, tactical threats to Aviation, and employment of ASE.

Sustainable and Progressive Training Model

Without a solid foundation this house will fall. USAACE has gained "irreversible momentum" to reform and train the future Aviation warfighter. It is imperative units leverage the Unit Trainer (UT) program and empower the current pilots-in-command (PCs) to conduct the technical aspect of the unit's training. AMSOs are charged to complete UT qualification administered by a unit standardization pilot (SP). This permits the senior instructors and AMSOs to refocus their efforts in strategic and tactical knowledge and application in high-intensity conflict. This model is not a new concept. It is an adaptation of what the other Aviation services have been using for years, the culmination of which is the weapon tactics instructor (WTI). Professional Military Education (PME), doctrine updates, and regulatory changes are currently under review to incorporate necessary changes into Army Aviation training plans.

Summary

To the point, we cannot promote a narrative of being tactically proficient without understanding the threat. Adding "tactics" in doctrine without training the application of planning and strategy perpetuates false preconceptions of abilities. Efforts will continue to improve modernization of the fleet and field new and improved survivability equipment. The success of these improvements is contingent on the aptitude of the operator. Our primary investment is in the Aviation Warfighter. Understanding enemy and friendly strategy, applying effective pre-mission planning, and correlating the appropriate tactics strengthens survivability resulting in combat readiness.

Note: The Survivability Branch is always searching for interested and qualified personnel. If you feel that you have the experience and the ability to contribute to the Aviation Branch's survivability areas of concentration, contact the DOTD Survivability Office for a consideration packet.

Above the best!

CW5 Casey W. Peterson is the chief of the Survivability Branch, Directorate of Training and Doctrine, U.S. Army Aviation Center of Excellence at Fort Rucker, AL. Additional major contributors to this article were: CW4 Kenneth Kimber, CW4 Lee Kokoszka, CW4 Jenny Litherland, CW4 Cesar D. Urquiza, SFC Tyler P. Hervey, SGG Douglas R. Robillard, and DAC Deborah A. Countryman.

PERSONAL PHOTO BY CW4 MARK CHAMBERLIN

Time-lapse view of a CH-47 Chinook pre-flight after dark at Jalalabad Airfield, Afghanistan.

Survivability – Outlook for Today and Tomorrow from the Perspective of Aviation Survivability Development and Tactics

By CW3 Paul Olson

The Aviation Survivability Development and Tactics (ASDAT) team occupies a unique position in U.S. Army Aviation. ASDAT, the Army component of the Joint Combat Assessment Team (JCAT) underneath the Joint Aircraft Survivability Program (JASP), started as a forensics-focused team that examined enemy tactics techniques and procedures (TTP) utilized to affect U.S. aircraft and provided the joint aviation community with counter TTPs against the threats posed to them. These efforts resulted in increased U.S. military aircraft effectiveness and survivability. The team's mission has expanded tremendously since its inception, with two new pillars of training and survivability joining the existing forensics mission. This mission expansion uniquely positions ASDAT adjacent to Training and Doctrine (TRADOC), industry and government to positively affect and influence the Survivability community in U.S. Army Aviation.

At present, retrograde operations in Iraq and Afghanistan lessoning the counterinsurgency fight, enables the fleet to refocus on the near-peer fight and challenges to American dominance across the battlefield. This realignment of effort and priorities highlight the need to self-assess survivability as it relates to training, lessons learned, and the way ahead. Concerning survivability, ASDAT always maintains both a firm hand on current threats facing supported units downrange and investigating the threats the joint Aviation community will face tomorrow. An initiative that personifies this refined focus is USAACE's execution of the Joint Aviation Multi-Ship Validation quick reaction test, which exposed ASDAT to several mission areas where historical institutional knowledge could be leveraged to make an immediate impact across the branch.

One issue that ASDAT identified was widespread lack of understanding among aircrews of how aircraft survivability equipment (ASE) functions in their airframe. Upon noticing this trend among aircrews, ASDAT submitted changes to each airframe's ASE checklist and operator manual to address the widespread confusion and assist our aircrews in better understanding their airframe's ASE. The submitted changes are awaiting final approval before dissemination and implementation. All crew members must have a confident understanding of ASE. The understanding of an aircraft's systems strengths and weaknesses are critical in order to exploit these strengths and mitigate these weaknesses in mission planning prior to mission execution, therefore maximizing Aviation's effectiveness in any threat environment.

Eliminating the Confusion

Given the sheer volume of Army aircraft, various models of each airframe, and the vast array of operational areas, an enormous strain is placed on operational flight programs, mission data sets/sequence, as well as unit Aviation Mission Survivability Officers (AMSO's) themselves. This results in an environment of confusion that ASDAT aims to eliminate. An initiative which exists to reduce some of the confusion is the ASE Configuration Chart, a relatively new product, which stream-

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lines ASE's setting and software loads. This chart is found on the ASDAT's Secret Internet Protocol Router network (SIPR) website. This clarification guide synthesizes information produced by the Army Reprogramming and Analysis Team (ARAT) and compiles it into an easy-to-read presentation for unit AMSO's to acquire the necessary information required to program their ASE for each airframe. Taking the guesswork and confusion out of the process allows AMSO's to dedicate more of their time to areas that need it.

At Fort Rucker, the Survivability Branch revamped the AMSO track to better equip AMSOs to deal with the current and emerging threat environments. One significant change is the elimination of the Personnel Recovery requirement. This modification allows AMSO's to focus more on survivability and refocus on threats posed by peer and near peer threats, along with their proxies. The continuous challenge from those threats, coupled with some peer and near peer partnerships and their tremendous investment into their militaries now represent the greatest threat to American military dominance.

AMSO's will have to focus their attention on new, emerging threats, as well as old threats modernized by new technology. Integrated Air Defense networks and legacy hardware lethality can be increased with only software upgrades that eliminate the need for hardware advancement. It is a challenging time for our Aviation community. Emerging weapons systems that leverage the electromagnetic spectrum as a battle domain, such as Directed Energy, GPS spoofing/denial, and Ultraviolet and Infrared has caused ASDAT to address these new threats and work to educate the force through unit training assistance visits, briefings for all levels of professional military education, weekly intelligence summaries and newsletters.

Training Opportunities

As we continue to educate aircrews on the current and emerging threats they face, it is also important to recognize the possible limitations our aircrews may have for training opportunities. Electronic warfare ranges where crews and units can work together to fly against actual threats are expensive, limited, and aging quickly. Outside of ranges, aviation will need to take advantage of simulation and virtual reality. These options have already taken root at Fort Rucker with flight students learning the basics of hovering prior to sitting in a cockpit. Units will need access to similar systems as an affordable option for crews to take advantage of and develop their TTPs. Although nothing can replace live training, investment in leveraging new technologies can have a profound impact by providing a cost-effective solution that allows crews to master their skill without the wear and tear on airframes. Although electronic warfare ranges can be difficult to attend, simulation can be present on the aircraft with emulators installed that will mimic enemy actions giving aircrews options to train while in flight. Army aviation is taking positive steps to address the threats that continue to emerge from our nation's adversaries, but more must be done to equip our aviators with knowledge and skills in this trying time of fluctuating budgets and ever-evolving threats.

Addressing the changes necessary to meet the survivability challenges we face as a community requires a culture shift that impacts the way we problem solve across Army Aviation. Continued high operations tempo, perpetual personnel changeover and additional duty assignments outside of aviator positions all contribute to a culture of last minute planning and ad hoc decision-making, which neglects the larger problem. From top to bottom, across the entire community, aviation needs to address its readiness for the next fight. This will require hard study of emerging and future threats and the impacts to our current survivability, as well as pointed work to resolve any inadequacies. Without a doubt, training is the keystone to surviving in the emerging and future battlespace. With education serving as the foundation, we must know the current and forecasted threats, as well as our own ASE inside out. Knowledge of the threat and knowledge of our own systems work hand in hand. ASDAT will continue to leverage its unique position adjacent to TRADOC, industry and government to positively affect and influence the survivability community across the joint Aviation community with the goal of preserving our fleet and our aviators in today's fight and in the future.

CW3 Paul E. Olson is an aviation combat forensics officer and CH-47F aviation mission survivability officer with the Aviation Survivability Development and Tactics (ASDAT) Team, headquartered at the U.S. Army Aviation Center of Excellence, Fort Rucker, AL.

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Always On: ARAT's "Sharp Axe" Supports Army Mission Readiness Through a Year of Challenges

By Mr. Eric Bowes, Mr. Brian McFadden and Mr. LaMarr Hill

It goes without saying 2020 has been one hell of a year. From global tension, COVID-19 pandemic, and social unrest, uncertainty and abnormality have become commonplace. However, one thing remaining steadfast, despite life's circumstances, is the Army Reprogramming Analysis Team's (ARAT) support to Mission and the Soldier. ARAT's mission remains to develop, deliver, and sustain software to support Commanders across the full range of military operations. We pride ourselves on "around the clock" support of this mission, regardless of the conditions surrounding it.

ARAT works to always ensure the Army's success in an ever-changing world. Whether we are combating new adversarial threats or working through a pandemic constrained environment, ARAT adapts, overcomes, and pushes forward. Our focus on continuous Soldier support, delivery of needed software updates to the field faster, and understanding the Soldier's first-hand experiences result in answering the call and accomplishing the mission.

Answering the Call

Give me six hours to chop down a tree, and I will spend the first four sharpening the axe – Abraham Lincoln.

ARAT is constantly sharpening its axes to be prepared for any situation, to include "rapid reprogramming" requirements for delivering software faster than normal based on urgent operational needs. ARAT started 2020 facing such a situation.

In January, we answered a HQDA call to respond to an immediate threat change in a combatant command area of operations. Straightaway, we began prepping and researching the region's threat environment based on the latest intelligence. When the approved requirement came down, we went into 24/7 mode, putting this effort foremost and redirecting our resources to get the necessary Aviation Survivability Equipment (ASE) mission software

U.S. ARMY ARAT PHOTO

ARAT-PO visits the Maryland Army National Guard for mission orientation.

products out the door. The result- three separate mission software products delivered electronically to the flight line in only 10% of the time normally needed for routine software product development efforts.

We were not done once we posted the software to the ARAT Warfighter Survivability Software Support Portal (AWSSSP) for download. Our team remained on 24/7 standby to provide any needed support. We also travelled to the deploying units' home station to provide Aviation Mission Support Officer (AMSOs) tutorials and hands-on instructions on the MDS downloading and updating procedures. All this was possible through years of sharpening our axe in anticipation of moments like this.

Unprecedented Times

The Army depends on ARAT for around the clock support 365 days a year, not just during times of urgent requirements. This dependency doesn't take a break when the rest of world pauses for a pandemic.

The same "sharp axes" which enabled the ARAT to support the Army during a potential confrontation at the start of the year enabled the ARAT to weather the COVID-19 crisis. While health and safety mandates and the rules of social distancing limited our on-site operations, these constraints didn't stop us from supporting our customers. ARAT quickly re-configured labs to accommodate socially distanced capacity all while monitoring the global operational environment to identify situations requiring impact messages to the field or rapid software responses.

Although ARAT did momentarily reduce to a minimal footprint to ensure the safety of the workforce, we utilized this time to prioritize strategic initiatives. We modified organizational construct to ensure greater quality and control standards, reviewed and refined processes and procedures, and focused on design and execution of several innovations to bring better software products faster to the Aviation community.

Leaning Forward in the Foxhole

ARAT's mission centers on being responsive to Commanders' requirements and a commitment to saving Soldiers' lives." Achieving this vision requires continuous innovation towards the goal reduction timelines associated with getting software products to the field.

We've have been working on four significant innovations which will add value to our software products:

Modernized AWSSSP with a focus on simplicity, improved communication to AMSOs and units, and a more user-friendly interface for delivery of software, information requests, and information messages.

Auto Parametric Update Tool enabling ARAT to automatically retrieve data from the primary database source of EW intelligence thereby reducing timelines and human error resulting in faster, better products to the Soldier.

Simulation Modeling Framework allowing intuitive generation of accu-

rate code-based simulations in one sustainable format to support faster threat simulation in the lab to ensure quicker products to the Soldier.

Ambiguity Analysis Tool performing ambiguity resolution of threat parametric data to analyze impacts on fielded software which will allow for timelier information messages to the Solider.

Every minute and every hour saved during the software development process ensures that we can get better ASE products to the Aviation Community faster. Innovations from the past have gotten us through this unprecedented time, and innovations currently underway will get us, and the Aviation Community, through crises of the future. However, innovation is only as good as our understanding of how our Aviators use our products.

Greening the Workforce

Daily, we focus to ensure Soldiers have the software they need, AMSO's have the understanding they need, and the entire Aviation Community has a lifeline for support to ensure their safety and survivability. ARAT is fortunate to have former and current members of the military, such as pilots, Aviation maintainers, and operation specialists, on its staff who have a background either utilizing or benefiting from ARAT's products.

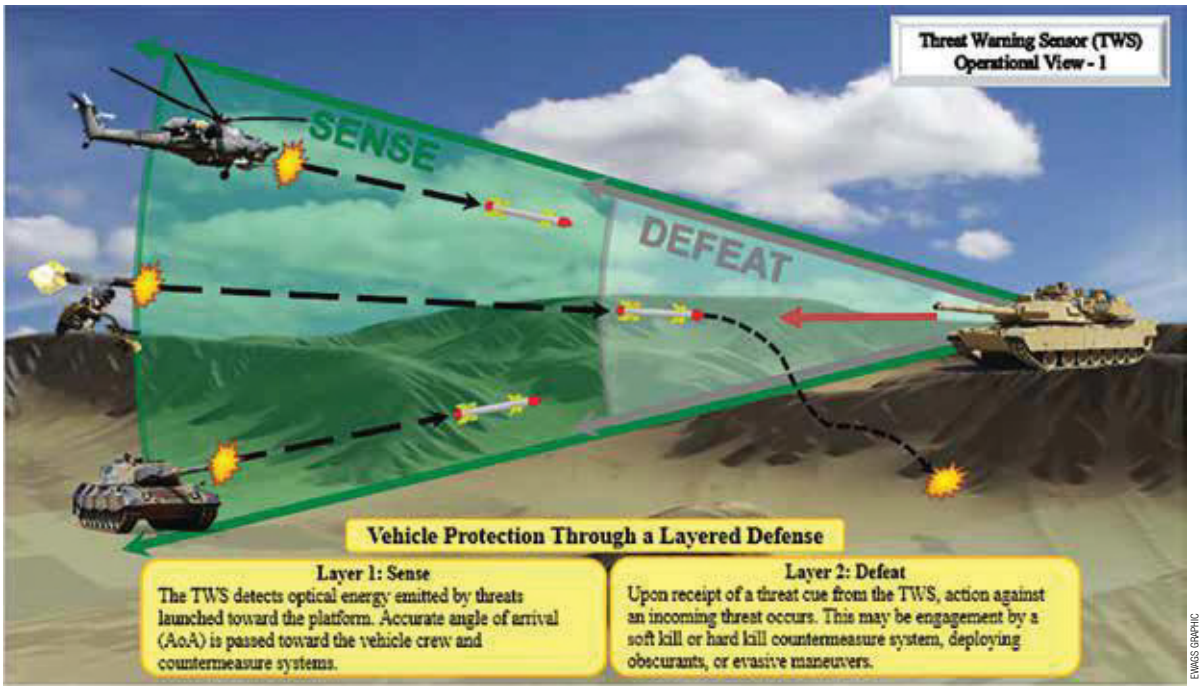
However, we also have a significant portion of the workforce who does not have prior military experience. While daily interaction with our veterans, reservists, and National Guard members is beneficial to understanding the Soldier's perspective, additional immersion and hands-on exposure to our customer is important.

This year, as in the past, we conducted a "greening exercise" which provided a glimpse of Army life and helped familiarize the team with the Aviation Mission and the equipment critical to its success. We leveraged our ongoing relationship with the 29th Expeditionary Combat Aviation Brigade (ECAB) and visited the Maryland Army National Guard Army Aviation Facility in the Edgewood Area of Aberdeen Proving Ground for a Mission Orientation/Greening Event. The National Guard provided briefings on the real-world operational mission impacts of ARAT products. We received a hands-on demonstration of operational ASE in a relevant environment and experienced an orientation flight in a Black Hawk helicopter.

Thanks to the dedication of the 29th ECAB, our staff gained a better understanding of the flight crew experience and the operational use of ARAT products. Additionally, new ARAT members have a greater sense of purpose and inspiration to continue to work and produce a better capability. This continued focus on understanding the customer allows us to better serve the Soldier to ensure mission success.

2020 will be "one for the books," as they say. But just as Soldiers must conduct missions anytime, anywhere, and in any environment, ARAT will keep its "axes" sharp to always support the Soldier with the same commitment. When the Army calls, we will be there come whoever or whatever the enemy may be.

Mr. Eric Bowes is the program officer of the Army Reprogramming and Analysis Team (ARAT), Communication-Electronics Life Cycle Management Command (CECOM) Software Engineering Center (SEC); Mr. Brian McFadden is the Simulations and Testing branch chief; and Mr. LaMarr Hill is a computer engineer responsible for DV2 and CV1 programming within the ARAT Operations Center Branch. All are located at Aberdeen Proving Ground, MD.



S&T Advancements in Threat Detection

By Mr. Ralph Troisio, Dr. Frances Bodrucki, Mr. Thomas Z. Provencher and Mr. Paul Restine

The development and proliferation of advanced anti-aircraft munitions including surface-to-air missiles (SAM), man-portable air-defense systems (MANPADS) and air-to-air missiles (AAM) present a significant threat to Army Aviation. These high-speed guided missile systems give crews little time to react to incoming threats and can prove fatal if not avoided or neutralized before impact. The U.S. Army Ground Combat Vehicles (GCVs) face similar threats in the form of Anti-tank Guided Missiles (ATGMs).

A passive threat warning sensor (TWS) can increase aircraft and vehicle survivability by detecting and warning crews of incoming threats shortly after launch, giving crews more time to maneuver or cue countermeasures to defeat the incoming threat. Passive sensors offer a distinct advantage over-active sensors such as radar. Unlike radar systems, passive TWS systems are able to detect incoming threats without radiating any energy. This drastically reduces the equipped platform's signature and therefore, its detectability.

Passive Threat Warning Sensors

Just like any pistol, rifle, shotgun, or other firearm seen in movies or television, anti-air and anti-armor threats produce distinct launch flashes when they are fired. That burst of light released from a launch produces a significant amount of energy that rapidly spreads out in all directions. Passive TWS use a combination of advanced optics, high resolution focal plane arrays and advanced signal processing to detect this energy long before the incoming threat can reach its target. Through the use of modern electro-optical imaging technology, this energy can travel several kilometers before reaching the vehicle and still be detected by a sensor.

Not all TWS systems are made to operate in the same wavelength band; some are designed to detect in a variety of bands across the electromagnetic (EM) spectrum. Operation in each band comes with its advantages and challenges. Infrared (IR) sensors can see far, but there is significant background clutter which results in the potential for more false alarms. Some passive sensors operate in the IR, by using two-color IR imaging techniques to reduce the background clutter that comes with IR imaging. Rather than operating in a single band, two-color IR imagers operate and sense light in two wavelength bands. These imagers take advantage of the spectral contrast between the two images produced at each wavelength to drastically reduce the amount of clutter.

Advanced hardware must be equipped with robust software and

algorithms that utilize it to its fullest capability. These complex algorithms quickly and accurately distinguish incoming threats from background clutter. Algorithms are commonly used for object detection applications due to their ability to recognize trends and patterns as well as their ability to adapt with little to no human intervention. These algorithms rely on large sets of initial training data to learn but will continuously improve as they are presented more data over time. Algorithms are trained using launch signatures from a large array of recorded threat launches as well as many hours of recorded background data.

Passive Sensing on Army Aviation Platforms

Army Aviation invested in the Advanced Threat Warner (ATW) developed by Northrop Grumman Corporation (NGC). Since its initial investment, the U.S. Army has tested the ATW on several of its rotary wing platforms including the UH-60 Black Hawk and the CH-47 Chinook and has even fielded the system on the AH-64E Apache.

Before being adopted by the U.S. Army, the ATW was flown and demonstrated success on U.S. Marine Corps and U.S. Navy aircraft on the CH-53E Super Stallion, CH-53K King Stallion, and MV-22 Osprey. These aircraft as well as the AH-64E Apache paired ATW with the Department of the Navy Large Aircraft IR Countermeasure (DoN LAIRCM). This pairing enables these aircraft to use data collected by ATW to cue and direct countermeasures, increasing survivability of the aircraft.

Leveraging Army Aviation Efforts for Ground Combat Vehicles

Traditionally, threats to U.S. Army GCVs have been addressed by vehicle armor and hard kill (HK) active protection systems (APS). However, advancements in threat lethality have exceeded the practical limits of additional armor. This has led the Army to shift to a layered approach for ground platforms, which combines armor with threat sensors and countermeasures. This approach is a variant of an APS that protects GCVs using a combination of sensors, an electro-optic IR (EOIR) countermeasure and a central controller to detect, identify, engage, and ultimately neutralize incoming threats. The introduction of soft kill (SK) into the defense system allows for increased survivability as it is not round limited like HK.

Development of threat warning technology for use on GCVs comes with a unique set of algorithmic, integration and environmental challenges that make sensor requirements very different from those currently addressed in Army Aviation. For example, the ground environment generally has much more clutter in the field of view (FOV) than the air environment.

To support these efforts, the U.S. Army Combat Capabilities Development Command (CCDC) initiated science and technology (S&T) efforts under the Ground Survivability Active Defense (GSAD) as part of the Next Generation Combat Vehicle (NGCV) Cross Functional Team. This effort includes two FY20 start programs: Advanced Soft-kill Countermeasure (ASK-C) lead by Command, Control, Communications, Computers, Cyber, Intelligence, Surveillance, and Reconnaissance (C5ISR) Center and the Layered Soft-kill System (LSKS) led by Ground Vehicle System Center (GVSC). ASK-C feeds a passive TWS as well as soft kill countermeasure (SKCM) techniques and hardware to LSKS for a live fire demonstration in FY21. These systems will be integrated onto a vehicle solely for this test event. The goal of this event is to demonstrate the viability of a layered SK approach. Current planned follow-on programs will add to the layered approach (additional countermeasures, including smoke, expanded threat detection capabilities, etc.), including development of a TWS specifically for use on ground platforms. In the interim for the scheduled demo, the ATW was selected as the demo sensor for FY21 field event. The ATW was present at the GVSC FY19 SK Rodeo in a non-interference capacity. Of the sensors that were present, ATW was one of two that were already successfully fielded in some capacity.

As mentioned above, there are different challenges between the air and ground detection as unique problem sets in threat areas. The joint CCDC effort will demo the ground-adapted air sensor. This includes data collection in ground environments (particularly cluttered) to train and improve the algorithms from the air to work more efficiently in the ground environment, as well as hardware and environmental considerations to adapt the air sensor for functionality on a ground platform.

Path Forward

Current TWS efforts have the potential to expand the capabilities beyond those discussed above. For example, including a pointer/tracker to track threats in flight, as well as account for a wide variety of different scenarios such as situations where the launch flash cannot be detected. The Army is currently investigating the different wavebands mentioned above to determine if there should be a layered approach to sensing and what bands are most appropriate. The sum of all these efforts bring the Army one step closer to fielding passive threat warning on ground platforms.

Mr. Ralph Troisio is the chief, Dr. Frances Bodrucki and Mr. Thomas Z. Provencher are engineers, and Mr. Paul Restine is a subject matter expert of the Electronic Warfare Air/Ground Survivability Division of the Intelligence and Information Warfare Directorate (I2WD), Command, Control, Communications, Computers, Cyber, Intelligence, Surveillance, and Reconnaissance (C5ISR) Center, Combat Capabilities Development Command (CCDC) located at Aberdeen Proving Ground, MD.

2020 National Functional Award Winners
Army Aviation Association of America

Outstanding Aviation Logistics Support Unit of the Year

Sponsored by AAAA

Commander: LTC Daniel R. O'Meara *Senior NCO: CSM Marc A. Dempsey*

834th Aviation Support Battalion
34th Combat Aviation Brigade
Camp Buehring, Kuwait

The 834th Aviation Support Battalion (ASB) distinguished itself in a dynamic combat environment from October 2019 to September 2020 while serving as the only ASB in support of Combined Joint Task Force-Operation Inherent Resolve and Operation Spartan Shield. The 834th ASB forward deployed to nine locations to provide aviation logistic support to United States and Coalition forces throughout Kuwait, Iraq, Jordan, Syria, and the Kingdom of Saudi Arabia. During its deployment, the 834th ASB successfully executed over 103,000 man-hours of aircraft maintenance; 55,000 man-hours of wheeled vehicle and equipment maintenance; coordinated movement of over 16,500 repair parts and packages worth $600 million; supported brigade level communications networks; and provided medical services for more than 2,200 personnel. In addition to its doctrinal mission set, the unit also supported air traffic services for over 80,000 aircraft operations and provided oversight for two strategic airfields. The 834th ASB served honorably while exposed to hostile enemy threat during multiple coordinated 107mm rocket attacks and an Iranian theater ballistic missile strike. During each event, unit Soldiers performed with distinction and continued mission critical combat support operations while in the face of danger. The outstanding performance by 834th ASB Soldiers clearly identifies them as the 2020 AAAA Outstanding Logistics Unit of the Year.

Materiel Readiness Award For Contribution By A Major Contractor

Sponsored by AAAA

M1 Support Services
Fort Rucker, Alabama

M1 Support Services (M1) made outstanding contributions to the materiel readiness of the U.S. Army Aviation Center of Excellence (USAACE) at Fort Rucker, AL. One brigade worth of employees maintained five brigades of aircraft (582) that safely flew 210,000 hours. Across all fleets, there were 48,124 more issuable aircraft to fly, the fully mission capable (FMC) rate improved 16%, while the not mission capable-maintenance (NMCM) rate improved 12%, and issuable aircraft increased 14 aircraft per sortie. M1 University trained hundreds of employees on technical skills to improve maintenance productivity. Aircraft Notebook (ACN) issues of scalability to meet Ft. Rucker OPTEMPO and fleet density and outages associated with .mil network reliance were minimized. The National Logistics Qualification Office recognized M1's National Maintenance Program as "Best-in Class" Quality Management System and the company received the Army Materiel Command Large Supply Support Activity Supply Excellence Award. M1 operated and shared "best practices" of the first Mobile Flexible Engine Diagnostics System, accelerating learning for 22 Army Aviation units; and designed and manufactured over 8,000 COVID-19 face masks in 1½ weeks to ensure USAACE force protection. M1's accomplishments have earned them the 2020 AAAA Materiel Readiness Award for Contribution by a Major Contractor.

Unmanned Aircraft Systems Soldier of the Year

Sponsored by AAAA

CW2 John C. Hergert
Company D, 82nd Aviation Regiment,
82nd Combat Aviation Brigade,
Fort Bragg, North Carolina

CW2 John Hergert trained at the Joint Air Operations Command and Control Course which prepared him for a deployment to Al Asad Airbase, Iraq in support of Operation Inherent Resolve (OIR) from October 2019 to July 2020. While deployed, CW2 Hergert fostered a shared understanding with D/82 AVN REGT's Task Force Headquarters, Combined Joint Task Force-Iraq, by attending collection management meetings in which he described the capabilities of the Gray Eagle, helped synchronize their collection efforts, and ensured efficient utilization of UAS platforms at the task force level. He broadened D/82's impact at the theater level by nesting Gray Eagle assets and coordinating the establishment of fires plans, sensor plans, and intelligence collection products with Combined Joint Special Operations Task Force-Iraq. In January 2020, Iran attacked Al Asad Airbase with several theater ballistic missiles inflicting nearly eighty percent casualties in D/82. CW2 Hergert sustained traumatic brain injury as a result of the attack, and despite suffering from symptoms, he stayed nearly another month to coordinate with base logistics and Army engineers to rebuild D/82's company compound and facilities. Following his evacuation from theater, he was awarded the Combat Action Badge and the Purple Heart Medal. CW2 Hergert's dedication and professionalism clearly identifies him as the Army Aviation Association of America's 2020 Unmanned Aircraft Systems Soldier of the Year.

2020 National Functional Award Winners
Army Aviation Association of America

Unmanned Aircraft Systems Unit of the Year

Sponsored by Textron Systems

Commander: CPT Ryan T. C. Eckerson | *Senior NCO: 1SG Westley J. Kilpatrick*

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

Company D, 82nd Aviation Regiment completed a record-setting deployment in support of Combined Joint Task Force-Operation Inherent Resolve (OIR), while attached to the 34th Expeditionary Combat Aviation Brigade. D/82 flew over 1,000 sorties, totaling just over 16,500 combat hours, more than any other UAS company in the history of OIR. In January 2020, Iran attacked Al Asad Air Base with theater ballistic missiles which impacted the D/82 footprint inflicting numerous casualties, destroying living quarters, and reducing manning strength by over thirty percent. While exposing themselves to hostile action, members of D/82 secured hasty fiber lines to reestablish link with six Gray Eagles that were still airborne. Within thirty-six hours after the missile strike, the company was once again conducting combat operations. D/82 continued to conduct operations despite nearly eighty percent of the formation being diagnosed with traumatic brain injury and 27 being evacuated from theater. D/82 executed the first-ever in-air-intertheater transfer of Gray Eagles by flying three from Bahrain to Iraq, spanning four countries and the Persian Gulf enabling them to support theater mission requirements for the rest of the deployment. The Soldiers of Delta Company, 82nd Aviation Regiment proved that they are truly deserving of the 2020 AAAA Outstanding Unmanned Aircraft Systems Unit of the Year Award.

Fixed Wing Unit of the Year

Sponsored by CAE

Commander: LTC Martin E. Weaver | *Senior NCO: CSM Harold E. Sampson*

206th Military Intelligence Battalion (Aerial Exploitation) (ODIN'S EYE)
Bagram Airfield, Afghanistan

The 206th MI BN (AE) is an exceptionally diverse organization tasked with providing mission command over the Army's largest aerial intelligence, surveillance, reconnaissance task force. The unit provided operational control and government oversight of more than 800 Soldiers, Department of Army Civilians, and defense industry partners and 55 manned and unmanned fixed wing aircraft. The 206th MI BN (AE) self-started a training program to qualify its aviators to fly the KA-300 that was approved by HQ DA G-3/5/7 DAMO-AV which assisted our contract partners who were restricted from entry into theater due to COVID-19. The 206th MI was geographically dispersed across four locations and conducted more than 9,000 combat missions, executing in excess of 68,000 combat flight hours supporting over 50 named operations. In addition to combat operations, the organization set the conditions for a successful and complete drawdown from theater earning the S-4 section recognition from the International Society of Logistics. The extraordinary accomplishments of the Soldiers, Civilians and Defense Industry partners of 206th MI BN (AE) clearly identify them as the 2020 Army Aviation Association of America's Fixed Wing Unit of the Year.

Army Capability Manager for Reconnaissance and Attack Changes Charter, Continues Mission

By COL Ryan K. Welch

I am honored to lead the ACM-RA team of professionals that represent Army Aviation recon and attack tactical and operational capability interests to materiel developers and industry. Although we will continue the same core mission to support our warfighters, ACM-RA is now task organized under Aviation Combat Development and Integration Directorate (A-CDID), Army Futures Command. This change serves to increase synchronization across aviation enterprise modernization efforts during the Army's transition to Multi-Domain Operations (MDO) capability.

The Aviation Center of Excellence continues to focus on future threats and Army Aviation's Supporting Concept for MDO. ACM-RA continues to draw from data and user feedback from training and deployed environments to identify capability gaps and integration friction in regard to doctrine, organization, training, materiel, logistics, personnel, facilities, and policy (DOTMLPF-P). This information aids in establishing priorities for our enduring fleet, while supporting objectives and setting a foundation for the "MDO-Ready" force of 2035. We continue partnership with major commands as we communicate and advocate on behalf of system operators and the sustainment community. Some of our efforts for the capabilities we support are listed below.

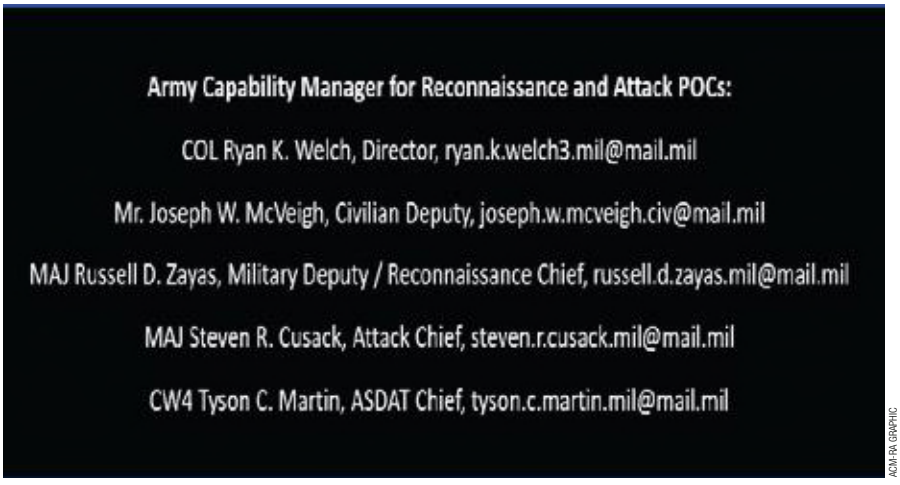
Reconnaissance

In coordination with Project Manager UAS and in-line with ongoing Army modernization efforts, ACM-RA continues to identify potential targeted readiness capabilities, and recommend improvements, to support RQ-7B Shadow and MQ-1C Gray Eagle UAS. At the time of this writing, Shadow is preparing for follow-on test and evaluation to validate improved electro-optical/infrared sensor range and image fidelity. Additionally, validation will occur to the advances made in the Levels of Interoperability (LOI) testing with the AH-64 to improve manned/unmanned teaming capability.

Product Manager Endurance UAS (PM EUAS) continues to field the Gray Eagle Extended Range (GE-ER) aircraft to Intelligence and Security Command, Army Special Operations Aviation Command, and selected Divisions' Gray Eagle Companies as a foundation for future GE-ER aircraft modernization. This foundation will serve as the basis for MDO-Ready UAS capabilities.

On tomorrow's battlefield, calibrated force posture demands will require UAS to operate from extended distances that stretch our current communications and sensor capabilities. GE-ER modernization priorities include assured precision navigation timing to ensure continued operations in a GPS-denied environment. Additionally, GE-ER will leverage upgraded avionics and modernized data links to communicate battlefield information available to commanders from modernized sensors and payloads.

In support of ongoing assessments of the total Aviation forces ability to execute in MDO, ACM-RA is updating UAS concept documents to ensure that modernization efforts reflect a capability strategy for multi-functional sensors and payloads, open system architecture and seamless air-ground communications to facilitate MDO reconnaissance and effects.



ACM-RA GRAPHIC

Attack

ACM-RA continues to assess the technological advantages that AH-64E Version 6 brings to the fight. User feedback from testing highlights the effectiveness of the Modernized Day Sensor Assembly, Modernized Radar, and Modernized Radar Frequency Interferometer to increase lethality and reach while providing augmented decision support for crews on missions.

The Attack Team continues to work closely with PM Tactical Air Ground Munitions (PM TAGM) to ensure Apache has a range of target effects available for anticipated threats that complement the aircraft's target detection capabilities. Primary efforts include developing the crewmember

interface and training support items to field the Joint Air-to-Ground Missile (JAGM) which will be available on Version 6 equipped AH-64E. JAGM will increase engagement options for crews in complex threat environments and improve accuracy for maritime targets, among other improvements. Our teams are also working to ensure future munitions and launchers are compatible with the Apache and support Future Vertical Lift developmental efforts on the Future Attack and Reconnaissance Aircraft.

As the Apache fleet anticipates the integration of the advanced T901 engine and its capabilities, our team continues partnership with the PM Aviation Turbine Engines to ensure the transition from the T701D is seamless and intuitive. Furthermore, the ACM team is working to improve the pilot to vehicle interface, primarily through the multi-purpose displays, to optimize the information available to crews in various mission phases.

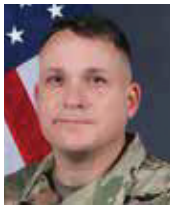
The AH-64 is the Army's attack helicopter for 2050 and beyond. The ACM team continues to seek opportunities to address baseline capability, safety, and obsolescence issues, while identifying capabilities to keep the world's premiere attack helicopter the most lethal and agile weapon system in the Army's inventory. Incremental improvements in training devices, increased mission processing power, sensor fusion and modernization, coupled with weapons and munitions advances will keep the AH-64 on the cutting edge of lethality to provide our ground commanders overmatch against adversaries.

Aviation Survivability Development and Tactics (ASDAT)

ASDAT remains abreast of current threats and prepared to respond and investigate incidents concerning aircraft receiving enemy contact. ASDAT continues to analyze threat systems and TTP to look further and deeper into the future of warfare and Army Aviation's contributions to land warfare in the multi-domain operations environment to mitigate risks to aircrews.

In concert with future capabilities and conducting aviation combat damage assessments, the team provides briefings to warfighters attending Professional Military Education training here at the USAACE as well as conducting unit briefings at home station. The ASDAT Team remains connected with the family of organizations that increase our understanding of aircraft survivability systems, threat system capabilities, enemy tactics and how Army aviation can implement techniques or employ provided equipment to respond to and mitigate those threats.

In conclusion, ACM-RA's mission is to support our aviation Soldiers. ACM-RA is focused on meeting the needs of our warfighters today, while setting a foundation for tomorrow's aviation force. We look forward to meeting you in person to receive your feedback, but please feel free to contact a member of the team if you have a concern.



U.S. ARMY PHOTO

COL Ryan K. Welch is the director, Army Capability Manager for Reconnaissance and Attack (ACM-RA), located at Fort Rucker, AL.

Army Aviation and the Need for Standardization of Electronic Flight Bags

By CPT Robert Wright

PERSONAL PHOTO BY CPT ROBERT WRIGHT

CW2 Garrett Cartner using an IPAD before an NVG flight.

Editor's Note: The views and opinions are those of the author and should not be construed as an official Department of the Army position.

Every pilot knows that the key to a successful flight is to stay ahead of the aircraft. Rapid technological advancements during the digital age have helped thousands of pilots do just that. In addition to advanced avionics, such as digital flight management and global positioning systems, electronic flight bags (EFBs) have become the standard in favor of bulky paper publications for nearly every pilot thanks to the commercialization of portable electronic devices (PEDs). Compared to traditional paper publication and charts, EFBs have the distinct advantage of speed, portability and convenience. Despite these benefits, EFBs also create human factor safety risks that have resulted in thousands of accidents and incidents. While commercial operators have continually refined and standardized their regulations and training programs to mitigate these risks over the last 20 twenty years, the Army has failed to provide timely and comprehensive EFB regulatory guidance. EFB usage among aircrews in the Army is quite literally the Wild West when it comes to devices, applications, and training. The Army needs to update doctrinal guidance, establish training requirements, and set up equipment procurement procedures in order to implement a comprehensive EFB policy that eliminates unnecessary risk.

Although commercial Aviation companies like FedEx or Delta have used various forms of EFBs since as early as 1994, Army aviators, along with most general Aviation pilots only recently began to adopt EFBs. This occurrence is solely due to the commercialization of portable electronic devices (PEDs), namely the iPad that was released in 2010. Prior to the widespread availability of PEDs, EFBs were manufactured by single hardware and software companies. In most cases these EFBs were integrated into the cockpit permanently rather than being portable. Pilots today can install a wide range of EFB software applications, like ForeFlight or Garmin Pilot, on most off the shelf PEDs. EFBs have the distinct advantage of speed, portability, and convenience. Not only do EFBs manage your flight publications, most include additional features like flight filing, performance calculators, moving maps and weather overlays that lead to greater situational awareness. With their widespread availability, Army Aviators quickly adopted EFBs for their speed, portability, and convenience.

Army aviators have been using PEDs since 2011, although their approval for use in the cockpit did not occur until 2018. Even after select PEDs were certified as airworthy, there remained no published regulatory guidance on the use and operation of EFB software. The Aviation branch attempted to address this void during the most recent update to the AR 95-1 (Aviation Flight Regulations) in April 2018. The update included the addition of a one-half page EFB section that provided broad program management requirements and effectively delegated all aspects of the program to unit commanders. In contrast to the Army's broad guidance, the Federal Aviation Administration (FAA) has outlined detailed requirements since 2003 for commercial operators to follow to obtain approval to transition to EFBs. The Army, however, does not fall under the Code of Flight Regulations, and is therefore not subject to this process and oversight. This

wasn't a major issue until Apple introduced the iPad and inadvertently created a cost-effective portable EFB.

Army Aviation regulatory EFB guidance has been long overdue, but the first policy did not do much to address underlying safety risks that the commercial sector has experienced over the last 25 years. For example, at Southwest Airlines all pilots have the same 9.7" iPad with the company's EFB Program installed. Pilots are not allowed to have personal EFBs or PEDs on the flight deck at any time. In Army Aviation, EFB standardization is virtually non-existent. An aviator's training and equipment experience doesn't just differ from post to post or battalion to battalion, it can differ from flight to flight. Many of you might remember flying the OH-58 Alpha and Charlie models during the basic warfighting skills portion of flight school. Each of these models featured a different instrument panel arrangement. In most cases, this constant change caused fascination inside the cockpit as well as added environmental stressors. Non-standardized EFBs currently present the same safety risks.

Following the release of EFB guidance in FAA Advisory Circular 120-76, extensive research has been conducted on associated safety risks. The FAA commissioned a 2014 study to identify the main human factors related to EFB accidents and incidents. It found that the majority of over 5,000 accidents or incidents reported during a twenty-year period were due to four main factors.

1. Use of Electronic Charts - Complications when using electronic charts consisted of view issues due to scrolling and zooming, the presence of inaccurate information, and the difference in presentation from paper charts.

2. Crewmember performance - Insufficient training, inexperience, distraction, or disorientation.

3. Hardware Concerns – Examples include inadvertent errors or shutdowns, legibility, readability, and brightness.

4. Placement, mounting, or stowage of the EFB.

By default, the current Army policy allows up to three of the four previously mentioned factors (1, 2, and 4) to be present in the cockpit. This adds unnecessary and unacceptable risk to Aviators and the Soldiers that we support.

To improve pilot and passenger safety, the FAA has continually revised AC 120-76 from the results of research backed evidence. Since its original issuance, the circular has averaged one revision every three years. As mentioned earlier, the Army has only recently issued regulatory EFB guidance. To minimize the safety risks and increase aircrew survivability, the Army needs to aggressively revise its EFB policies based on the lessons learned by commercial operators over the last 20 years.

To effectively implement a comprehensive EFB policy comparable to commercial airlines, the Army will need to update doctrinal guidance, establish training requirements, and set up equipment procurement procedures. Doctrine improvements should include an update to section 5-7, Electronic flight bag, in AR 95-1. In the interim, regulatory guidance should be outlined by the Department of Evaluations and Standards through STACOM directives. EFB application standardization is one critical element that must be addressed in the aforementioned doctrinal updates. Since AR 95-1 only states that "the same flight application" should be used between pilots, most units leave this decision to the Pilot-in-Command. Therefore, both the EFB application and type of PED used can vary from flight to flight for assigned co-pilots. In addition to updating AR 91-1, the Army Aviation SOP will need to be amended to add EFB operations as a 1000 series task in the digital Aircrew Training Manual. Finally, the Army must develop a streamlined equipment procurement process for PEDs to facilitate standardization and modernization across all units.

Aviation is already inherently dangerous, but the risk increases significantly when you factor in the complexities associated with military Aviation operations. The U.S. Department of Transportation estimates that 80% of all aircraft accidents are related to human factors and occur due to a chain of events. In order to prevent accidents, we must break the chain. Standardizing Army EFB regulations, policies, equipment, and training through a comprehensive approach will reduce accident factors present in the cockpit and help aircrews break the chain.

CPT Robert Wright is the chief of Aviation for 7th Army Training Command and a UH-60 MEDEVAC Pilot with C/1-214th in Grafenwöhr, Germany.

The Korean War – Part III: Fixed Wing

By Mark Albertson

ALL PHOTOS AMAFFILE PHOTO

Editor's Note: This is the third and final article commemorating the 70th anniversary of the Korean War.

V-J-Day, September 2, 1945, the Air OPs boasted 2,630 pilots, 2,252 mechanics and 1,600 aircraft. Before the year was out, only 200 aircraft remained. The Air Observation Post was not only facing irrelevance, but outright extinction. Yet with the National Defense Act of 1947, the United States Army Air Forces became the United States Air Force. It was imperative, then, that the Ground Forces have a capability – no matter how rudimentary – for serving their immediate tactical air needs. And despite bumps on the road ahead, this would prove to be the launching pad for Army Aviation as we know it.

In the Beginning

On June 25, 1950, the Air OPs began the Korean War with 1,211 aircraft, 56 of which were helicopters. Many of the fixed wing were aging L-4s and L-5s. Yet during the aircraft competition, held in April-June 1950, the Cessna Model 305 emerged the winner, known to the Army as the L-19 Bird Dog. This aircraft was found suitable for the combat tasks required, such as directing artillery fire, wire laying, emergency supply drops, air taxi for brass and even training. Production was to commence in December 1950, with a target of 25-30 aircraft per month. In the meantime, holdover L-4s and L-5s would have to shoulder the load in Korea.

Between July 4, 1950 and December 31, 1951, some 90 percent of the aerial fire direction missions were flown by these aircraft. Only 10 were lost during combat operations, while non-combat accidents claimed another 122 aircraft. During this same period, U.S. Eighth Army L-4s and L-5s logged 186,372 hours during 140,792 missions; 64,541 of these were combat sorties. By 1952, the L-19 was flying most of the liaison sorties. That year, Army Aviators logged

The Piper L-4 Cub was the backbone of the Ground Forces' Air Observation Post in World War II. But by the Korean War, the L-4, together with the Stinson L-5, though getting long in the tooth, served during much of the war before giving way to the Cessna L-19 Bird Dog.

An O-1 (L-19) Bird Dog; a derivative of the Cessna 305, replaced the L-4 Cub and Stinson L-5 as the Army Ground Forces' cooperation aircraft; it would faithfully serve in two wars, Korea and Vietnam.

117,593 administrative missions, evacuated 7,654 sick and wounded soldiers, in exchange for ten pilots killed in action.

War enabled the Army to modernize its fixed wing fleet. For instance, besides the Bird Dog, the de Havilland L-20 Beaver made its debut in Korea, December 22, 1951. As a utility aircraft, it replaced the L-17 Navion. The L-23 Seminole, built by Beech, was the Army's first twin-engine aircraft. Introduced into Korea on December 1, 1952, the Seminole was a six-place, high-performance, all-weather personnel transport.

The L-23 Seminole, or U-8D/F, was built by Beech and was Army Aviation's first twin-engine fixed wing aircraft. This air taxi for staff personnel was a six-place type with a tricycle landing gear. Between 1952 and 1962, the Army procured 358 machines.

First Combat Sortie

Credit for the first Army Aviation combat sortie is attributed to Lieutenant James E. Alvator, flying for the 21st Infantry Regiment, July 4, 1950. During the course of this mission, he was bounced by a trio of prowling Yak-9s, but was able to avoid being chalked up. Not so 24th Division aviator, Lieutenant David O. Munson, shot down and killed three days later while directing artillery fire near Taejon.

During the summer of 1950, Army Aviators not only directed artillery fire, but flew missions of route column control, observation and reconnaissance for American and ROK units retreating south towards what would become the Pusan Perimeter. But with the change in the course of the war – the Inchon landings; breakout from the Pusan Perimeter; invasion of North Korea; the ensuing intervention of Red Chinese troops – fixed wing Army Aviators were assigned other tasks. During the last week of November 1950, the Army's little planes evacuated some 800 seriously wounded.

During the American Civil War, Confederate gunners learned to hold their fire when Balloon Corps gas bags suddenly appeared, for this invariably meant a storm of Federal artillery. During World War II, on many occasions, German and Japanese gunners withheld their fire rather than betray their positions to the snooping Cubs. In Korea, though, the Reds proved to be a good deal less prudish. This was especially so with the Chinese, who deployed anti-aircraft units to deal with the bothersome little planes.

During the global conflict, many Cub missions, especially early in the war, were flown along the front lines, on the Allied side. With the Korean conflict, many missions were flown on the enemy side of the lines; sometimes going as deep as 50 miles or even more. A healthy respect for Red Chinese gunners forced many aviators to higher altitudes, prompting observers to resort to field glasses to conduct their observations.

Heroism and Resilience

One of the more harrowing, and certainly one of the most unusual, of fixed wing sagas during the Korean War, occurred on February 24, 1952. Captain Charles N. Posz, from Eau Claire, Wisconsin, was piloting his L-19 near Pyonggang, on the cusp of the "Iron Triangle." His observer was Lieutenant Ralph T. Clark, from Smithfield, Utah.

The two were observing enemy positions from an altitude of 6,000 feet. Suddenly their Bird Dog shook like a toy in a dog's mouth. Both looked immediately to starboard. Some 12 square feet of wing was missing. Posz and Clark were some six miles inside enemy territory. To get back to UN lines, they first had to get control of the aircraft. The L-19 sagged, plunging 1,000 feet at 125 miles-per-hour. Posz managed to right the wounded Bird Dog. He found that throttling back to 110 mph, the plane seemed to want to stall. So, he put everything to the firewall and kept the L-19 straight and level.

The significant loss of wing surface made control difficult. Applying full left rudder and full left aileron was needed to keep the L-19 aloft; and this required both Posz and Clark to keep their plane in the air. Clark broadcast their plight.

Flying nearby was Lieutenant John J. Self from Lockhaven, Pennsylvania and Lieutenant C. J. Wanger who hailed from Utica, New York. Self hurried to render assistance. He sidled up alongside, ready to provide an escort back to the 2nd Division Artillery airfield. Once over UN lines, Posz ordered Clark to hit the silk.

"What are you going to do, Posz?"

"I'm going to try to bring it in."

Clark refused to abandon his pilot. As he explained later, "The pressure on the controls was such that I knew it would take both of us to keep the thing in the air. Posz also needed someone to work the radio."

Posz approached Hartell Field. He tried three passes; but the nagging threat of stalling out made the runway too short. Posz and Clark ignored urgings to bail out. Posz and Clark pushed on for K-47, an Air Force strip at Chunchon, which had a longer runway. Posz made his approach to land. Standing by was a crash truck, fire truck and ambulance. Posz brought the stricken Bird Dog in, at full throttle. The runway was some 4,600 feet long, and Posz and Clark used most of it. But that wasn't all . . .

. . . In three hours, Posz's L-19 had a new wing. From there the plane was flown to an ordnance unit for complete repairs. And Posz and Clark? Both received a DFC for their white-knuckle flight.

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

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

I greatly appreciate the support from CW3 Geoff Laubhan, the Idaho Snake River Chapter VP Membership for authoring and sharing this information with our membership.

The Idaho Snake River Chapter

CHAPTER COURTESY PHOTO

Dedicated in September 1989, this memorial to all Idaho Army National Guard Soldiers, past, present and future, was donated by the chapter and is located at the ARNG Aviation Support Facility in Boise.

The Idaho Snake River AAAA Chapter, founded in 2008, is headquartered in Boise, ID at Gowen Field. The organization supports Idaho Soldiers and their families by participating in events that foster camaraderie and fellowship throughout the military community.

Feeder units include 1-183rd AHB, Det 1 Co G/Det 6 Co D/Det 7 Co E 1-168th MEDEVAC, Det 1 Co D 1-112th AVN S&S (LUH), and Det 35 (C12). The Idaho Aviation Group consists of approximately 400 Soldiers. Chapter Officers include: 1LT Fernando Soto as the sixth President; CPT Jordan Dosch, Senior VP; MAJ Cameron Ryffel, Secretary; CPT William Miller, Treasurer; CW3 Geoff Laubhan, VP of Membership; CW3 Kyle Sam, VP of Scholarships; and SFC Tammi Crnkovich, VP of Awards.

Idaho Aviation History

There has been a dedicated Army National Guard Aviation unit in Idaho since the birth of the 116th Aviation Company in 1960, consisting of L-19A Bird Dogs, L-20 Beavers, Hiller H-23 Raven helicopters, and CH-34 Choctaws. Over the years, many different aircraft were flown including the UH-1H and UH-1M Hueys, OH-58As, and OH-23Ds. In July of 1989, the unit inherited the 1-183rd lineage from an Idaho Army National Guard field artillery unit that existed in the 1940s. This officially separated the Aviation unit from Idaho's 116th Cavalry Brigade and placed it under the parent unit of the 66th Aviation Brigade and eventually the 34th Infantry Division "Red Bulls". In 1991, Idaho also stood up its first MEDEVAC unit in Det 1 1250th Medical Air Ambulance. In 2012, Idaho began the fielding of brand new AH-64D Longbow Apaches and continued to fly Apaches until 2016 at which time the Army Restructuring Insinuative (ARI) re-structured National Guard Apache units and designated the 1-183rd as an Assault Helicopter Battalion flying UH-60L Black Hawks. Additionally, in 2017 Idaho received a modern-day Medevac unit and eventually grew into Det 1, Co G 1-168 Medevac consisting of 6 UH-60Ls. Present day, Idaho Aviation is now moving into its third airframe transition in the last 10 years, with the fielding of brand new UH-60M Black Hawks. Idaho will have 20 new UH-60Ms on the ramp by the end of FY21 continuing the strong heritage of Idaho Army Aviation.

Strong Membership

The Chapter currently consists of 129 members of which 55 are life members. The membership represents members of all ranks from junior enlisted to general officers and civilians. The chapter has made great strides in membership numbers due to their popular membership drives. In 2018, the chapter offered half-price lifetime and 3-year memberships. From that event alone, their membership jumped nearly seventy percent.

Memorialized Scholarships

Four scholarships are funded through the Chapter. Each with their individual memorialized Idaho Aviation member. They include the CPT Ed W. Freeman Memorial Matching Scholarship, the CW2 Jesse D. Phelps Memorial Matching Scholarship, the CW4 Stien P. Gearhart Memorial Matching Scholarship, and the CW4 Jon L. Hartway Memorial Matching Scholarship.

Robust Events

The Idaho Snake River Chapter puts on 2 major fundraising events each year. A highly popular bowling tournament, which brings teams of 4 to 30-plus lanes of competition bowling. Additionally, the chapter puts on a fall golf tournament, their highest earnings event of the year. Additional sponsored events include the bi-annual Aviation Ball, the Aviation Dining-In event, and Annual Aviator selection board open house, which brings potential Aviation board applicants together in a casual environment to introduce themselves and gather valuable information about a career as an Idaho Army Aviator.

Summary

The Idaho Snake River Chapter continues to support our AAAA membership in Idaho. They are a proud chapter that is rich in history.

Feel free to contact me if you need help for your Chapter, Executive Board support, would like your chapter featured in the AAAA magazine or to obtain clarification of National procedures. I look forward to working with you and supporting AAAA.

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

Order of St. Michael and Our Lady of Loreto Inductees

U.S. Army North

U.S. ARMY NORTH PHOTO BY CHARLOTTE REAVIS

CW4 Erin Ingraham, an aviation safety officer assigned to U.S. Army North, is inducted into the Bronze Honorable Order of St. Michael by U.S. Army North Commanding General, LTG Laura J. Richardson, Aug. 4, 2020 at Fort Sam Houston, Texas. Ingraham was recognized for her many significant contributions to Army Aviation.

Aviation Center Chapter

CHAPTER COURTESY PHOTO

On August 28, 2020, **CW5 Sam Baker**, outgoing command chief warrant officer of the 110th Aviation Brigade, U.S. Army Aviation Center of Excellence, was inducted into the Gold Honorable Order of St. Michael by AAAA National Senior Vice President, MG (Ret.) Tim Crosby at a retirement ceremony following the change of responsibility at the U.S. Army Aviation Museum at Fort Rucker, AL. Assisting with the induction were brigade commander and senior NCO, COL George Ferido (second from left) and CSM Will Haddon, respectively.

Gold Standard Chapter

244TH ECAB FACEBOOK PHOTO

COL H. Allan Cutchin, outgoing commander of the 244th Expeditionary Combat Aviation Brigade, and his wife, **Sandy**, are inducted into the Bronze Honorable Order of St. Michael and Honorable Order of Our Lady of Loreto, respectively, by U.S. Army Reserve Aviation Command commanding general, BG Jami Shawley, in conjunction with the brigade change of command ceremony, July 11, 2020 at Fort Knox, KY.

CHAPTER PHOTO BY 1.SG HOLLY R. BURKE

SFC Curtis W. Hopper, maintenance platoon sergeant for Company D., 2-1st General Support Aviation Battalion, is inducted into the Bronze Honorable Order of St. Michael, by 2-1 GSAB commander, LTC Jacob A. Whiteside, on September 3, 2020 at Fort Riley, KS. Hopper was recognized for over 13 years of contributions as a CH-47 maintainer, team leader, squad leader, recruiter, platoon sergeant, and career manager/professional development NCO. He will remain at Ft. Riley and assume responsibilities of first sergeant for B/2-1 GSAB.

Mount Rainier Chapter

CHAPTER COURTESY PHOTO

SFC Patricia Simpson, flight operations platoon sergeant for Headquarters and Headquarters Company, 1-168th General Support Aviation Battalion, Washington Army National Guard, is inducted into the Bronze Honorable Order of St. Michael by Mount Rainier Chapter President, COL (Ret.) Anthony Bolante on August 2, 2020 at Joint Base Lewis McChord, WA. Simpson was recognized for more than 23 years of distinguished service to include more than 5 Warfighter exercises and culminating as the 1-168 GSAB Flight Operations subject matter expert.

AAAA Membership Update

By CW4 Becki Chambers

LT Chance Mathis, who was highlighted last month, is the guest author for this issue's Membership column. – CW4 Chambers

The Membership Corner

As a National Executive Board Member, I believe that one of the amazing opportunities of the job is the position to recognize and highlight incredible AAAA members. This month I have the distinct pleasure to share the story of WO1 Aubrey Bloom.

WO1 BLOOM PERSONAL PHOTO

WO1 Aubrey and Emily Bloom

WO1 Aubrey Bloom was born and raised near Nashville, TN. His mother a career critical care nurse, and father a career Aviation mechanic, WO1 Bloom always had exceptional examples of exemplary work ethic and technical knowledge. Working with his father in aircraft hangars throughout his life, Bloom made the decision after his first semester of college to join the Tennessee Army National Guard as a 15T, UH-60 A/L Black Hawk Helicopter Repairer. Since then he has had the opportunity to be exposed to multiple roles within the Army Aviation community. Bloom began his career with F TRP, 1-230th ACS as a junior phase maintenance mechanic. He then was selected to support a small Fixed-Wing ISR unit, MARRS, as a part of JTF ODIN for a deployment to Bagram, Afghanistan, May 2015-February 2016. Due to his maintenance experience, Bloom was given the opportunity to take on multiple roles under the unit's Senior Warrant Officer, CW5 Gerald Maneiri (MSARNG). He fulfilled the role of FOD Officer, Assistant GFR, Assistant COR, and conducted the annual ARMS inspection, alongside his regular duty of performing as an Aerial Sensor Operator on board the KA-300/MC-12. Bloom finished his deployment as an FI and was awarded for his performance in maintenance management. Upon return, he quickly progressed as a UH-60 A/L Crew Chief. In August of 2017, he was promoted to SGT and transferred to CO C-, S&S, 2-151st as an LUH-72 Crew Chief and UT for the L3 MX-15 SD camera/payload, as credited to his previous experience with the system on deployment.

In May 2019, Bloom graduated from Middle Tennessee State University with a Bachelor of Science Degree in Mechanical Engineering Technology. He was president of the Experimental Vehicles Program and was awarded Most Outstanding Student by his department. Bloom is currently attending U.S. Army Flight School. Once complete, he will return to his unit, A CO 1-230th AHB at BNA, Nashville, TN.

Alongside his profession as a pilot, Bloom has already begun to develop plans with regard to his civilian career on making his way into one of the many research and development projects at Redstone Test Center, Aviation Flight Test Directorate, Huntsville, AL. He believes the two occupations will provide a mutual benefit of gained knowledge and therefore, application.

While performing in the top five Warrant Officers in his class, WO1 Bloom designed, coordinated, and dispersed two flight patches, one for primary phase, and the other for Common Core, out of motivations for nostalgia and morale. He also aided in collective class projects of two new picnic tables, and a repainted ramp Calvary Flag for Shell Army Heliport, Fort Rucker, AL. The projects were executed as area beautification to thank BWS Instructor Pilots and cadre, as well as the appreciation of the process as a whole.

WO1 Bloom has been a member of the Volunteer Chapter of AAAA since November of 2015. He applied for and was awarded the CPT Marcus Alford Memorial Scholarship in 2018.

WO1 Bloom plans on applying both his skills as a pilot and engineer in advancing the capabilities of the Tennessee Army National Guard, and Army Aviation as a whole. He believes humility and resilience are the two highest attributed qualities of an Army Aviator. He would like to first and foremost give credit to his faith in God. He would also like to thank his wife Emily for her unconditional support. The following are contributing members of the class projects: WO1 Gabrielle Bernal, WO1 Roger Jameson, WO1 William Koch, WO1 Samuel Oder, 2LT Megan Pontius, 2LT Marija Ugstad, WO1 Marissa Vasquez, WO1 William Virrill, WO1 Nick Xidis, 2LT Adam Westervelt.

CW4 Becki Chambers
AAAA Vice President for Membership

New AAAA Life Members

Air Assault Chapter
CPT McKenzie Hudgins
Mr. Paul M. Myers
Aviation Center Chapter
LTC Scott Dunkle
CW4 Justin Watts
Cedar Rapids Chapter
CSM James C. Trask, Ret.
Central Florida Chapter
CW4 Patrick J. Coakley, Ret.
Delaware Valley Chapter
Bryan M. Scofield
Desert Oasis Chapter
SFC Christopher Shueman
Greater Atlanta Chapter
LTC James E. Leathers, Ret.
Grizzly Chapter
COL Louis E. Carmona, Ret.
Jack H. Dibrell/Alamo Chapter
SGT Corey Franks
Keystone Chapter
COL Michael S. Johnson
Phantom Corps Chapter
CW4 Christopher Hertzig Sr.
Savannah Chapter
1SG Roque Garcia Aponte
ShowMe Chapter
LTC Fin Patrick Carey
Southern California Chapter
Tim Brown
Tennessee Valley Chapter
COL William P. Heyland
Jeremy Rimmer
Quintessa Thomas
Wright Brothers Chapter
COL Christopher Acker, Ret.
LTC Robert Scott

New AAAA Members

Air Assault Chapter
SSG Michele Gooden
SGT Ka Davis Thao
Aloha Chapter
2LT Daniel Hanifin
Arizona Chapter
Scott Trisilla
Aviation Center Chapter
Lauren Gould
CPT Manuel L. Vera
1SG Aramis Martin
PFC Kent Thomas Mauney
CW4 Justin Watts
LTC Erica Witty
Badger Chapter
CW4 Michael Murray
Battle Born Chapter
SSG Justin Jensen
CW4 Gary C. Olson
PV2 Nathan Robert Ritter
CW3 Thomas Venable
Bayou Chapter
CW4 John Goodrich
PV2 Trenton Cole Lemoine
Bluegrass Chapter
WO1 Courtney Hickman
PV2 Hunter Wright
Central Florida Chapter
PV2 Derek Center
Colonial Virginia Chapter
SSG Tyler Callahan
SSG Kirk W. Clarke
PV2 Wesley J. Jensen
1SG Oscar Lopez Jr.
Aaron Moriarty
Cowboy Chapter
SSG Gabriel Rivera
CW3 Stephen H. Scheiding
Delaware Valley Chapter
PV2 Sean M. Gallaway
CW5 Stephen D. Mulligan
Flint Hills Chapter
WO1 Edward D. Exler
Flying Gator Chapter
PVT Cadel L. Johns
Follow Me Chapter
PV2 Joseph Edwin Powell
Gold Standard Chapter
SPC Jessica R. Barrett
PV2 Joseph T. Reece
Greater Atlanta Chapter
WO1 Dylan M. Henry
PV2 Kyra A. Hokinson
SPC Austin Taylor Mobley
SSG Michael Zink
Iron Mike Chapter
CW4 Albert Smith
Jimmy Doolittle Chapter
PV2 Elijah Barclay
SSG Jayme Belval
LtCol James Leary
Lindbergh Chapter
PV2 Seth Jeremiah Cary
Lonestar Chapter
Iain Armstrong
Sheila Croff
SPC Edgar Eli Diaz-Aguirre
Steven Pearson
Laura Zimmer
MacArthur Chapter
PFC Alexander J. Alvarez
PVT Gianni Lopez
PFC Zachary C. Lounsberry
PFC Mariam Masuddramani
SSG Anthony Ovalles
Magnolia Chapter
James McClellan
Minuteman Chapter
PV2 Erick Hoekstra
Mount Rainier Chapter
WO1 John W. Marshall
North Star Chapter
SGT Timothy Fuller
CPT Brandon Scott Hale
North Texas Chapter
Todd Wallace
Dillon Watkins
PVT Joshua Watson
Northern Lights Chapter
Mr. Justin Spillers
Phantom Corps Chapter
SFC John Parra
Pikes Peak Chapter
SFC John Patrick Baker
CPT Michael Clanton
Jeremy Fritschy
SGT Christopher A. Hackett
1SG Becky Haynes
CW4 Jason Luker
Grace Margritz
CW2 Neakale Moreno
1SG Noel Restolopez
CW2 Paul Spallino
MAJ Elizabeth Verardo
Michael Werner
Rio Grande Chapter
CW2 Robert Dosland
SSG Kyle Gregory
Savannah Chapter
CW3 Ian Foote
1LT Nicholas Ortiz
ShowMe Chapter
PV2 Hunter G. Vandrunen
Southern California Chapter
PFC Jun Steven Bae
PFC Joshua S. Bradley
SPC Angel Alexander Cruz
Tarheel Chapter
Jerry Tussing
PV2 John Wingo Jr
Vickie Woodard
Tennessee Valley Chapter
LTC Josh Baker
Jamie L. Flynt
LTC Kelley Smith
Thunderbird Chapter
PFC Benton Luke Johnson
Utah Chapter
PV2 Jeremy Allen
CW3 Nikolai Wedekind
Washington-Potomac Chapter
CW5 Yolondria Dixon-Carter
Heather Hendrickson
Mike Olson
Wright Brothers Chapter
PFC Connor M. Gordon
Zia Chapter
PFC Kaden James Rankin
No Chapter Affiliation
SSG Andrew C. Fritschie
1SG Demetrious Hughey
CPT Edmundo B. Nicolas Jr.

Lost Members

Help AAAA locate a lost member on this list and receive FREE one month extension to your membership.
CPT Robert S. Boham
Walter D. Bowden
Harold V. Bowie Jr.
COL Fred E. Brown, Ret.
LTC Jeffery D. Brown
Rickey J. Brown
MAJ James E. Bruckart
E. W. Cavanaugh
LTC Richard G. Cercone Jr.
LTC Tzu-Shan Chang
COL James A. Coar, Ret.
MAJ Harry Connors Jr. Ret.
Bruno Cussigh
SGT Travis Bonham Darnell
2LT Arthur W. Galloway
Mr. William H. Gillispie
Mr. Michael F. Glass
MAJ Gregory W. Glover
LTC William T. Goforth
Mary H. Gorman
COL Gerhard Granz, Ret.
Stan Hawk
COL Jose L. Hinojosa, Ret.
Dave Hudson
CW4 Delbert Jackson, Ret.
LTC Randy K. Jackson
Allen E. Jants
CW3 Jeffrey J. Jelonek
MAJ Gregory R. Jenkins
MAJ David A. Jobe
LTC Peter D. Kowal
CW3 Vladimir Kultschizky
CW3 Timothy J. Larz
MSG David W. Little, Ret.
SPC Robert W. Miller
CSM Vernie Nance, Ret.
MAJ Darrel B. Nerove
Fred A. Newcomb
SFC Henry Rathbone, Ret.
Tony Sanchez
LTC Martin Scheld
Thomas R. Schiltz
LTC Jerry D. Scott
LTC Jay Q. Smith
Jeremy Smith
MAJ James F. Speelman
LTC Friedrich Stern
Jean K. Tinsley
WO1 Armando B. Torres
MAJ L.D. Walker
Rose Weast

AAAA **Family Forum** By Judy Konitzer

PERSONAL PHOTO CW4 (RET.) JOE PISANO

How Are Our Youth Coping with COVID-19?

No doubt about it. We are living in a deeply altered world with a dramatic change in what is "normal." Without a vaccine, and maybe even with one, COVID-19 may be here to stay indefinitely according to a growing consensus of scientists.

Masks, full-to-the-max back packs and social distancing before, during and after school are the daily norm for most students physically returning to school.

But as doctors improve treatments, and people embrace best practices like wearing a face mask, washing hands, and practicing social distancing, we are likely to see fewer cases with less severity. Of course, there are exceptions to this, and people with pre-existing conditions and the elderly are more vulnerable to grave illness and/or death. Interesting to note is COVID cases are rising among young adults, although seemingly milder, and once recovered they feel they can get into the world and resume life as usual.

The need to socialize and seek new experiences is "a neurobiological mandate" according to Judith G. Edersheim, founding co-director of the Massachusetts General Hospital for Law, Brain & Behavior and Assistant Professor of Psychiatry at Harvard Medical School. The development period from 14-26 when dopamine levels reach a lifetime peak is the time when motivation and reward driven learning drives them to value immediate gratification over future gains, which can lead to risky decisions. During this time, social environment and interactions with peers are important for brain development, mental health, and developing a sense of self. Lack of peer contact may interrupt this and might have long-term detrimental effects.

The pandemic is exacerbating these biological cravings when peer contacts, especially in schools, are limited, and while many will be returning to college campuses, many will not. Before COVID-19, young people showed rising rates of anxiety, depression, and suicide, which is seemingly making these existing problems worse and even creating new ones. Uncertainty around when the pandemic will end and what life will look like in the future is also causing distress. Studies show a relationship between unemployment and suicide, illicit drug use, and alcohol use with young adults being particularly vulnerable to those influences. On a positive note, the pandemic could also be teaching some young adults an important lesson that life is controllable and predictable given the right resources.

With tremendous controversy over the opening of elementary, middle, and high schools, it remains to be seen how this will continue to affect children and younger adults. When schools initially closed and students went to remote education, it became a learning curve for many families. It was not the traditional approach to "home schooling" already embraced by over 1 million families, but rather an emerging response which involved bringing school to the home. "Home schooling" is very difficult, demanding, and requires a lot of hard work, preparation, and time. It's not for everyone, and even those who think it might be for them at this point may find out it is not. However, it is a reality, and there may not currently be a perfect answer with one size fitting all. We discovered this when asked to help "home school" our 7-year-

News Spotlight

National Guard Providing Heroic Firefighting Efforts

Massive wildfires have burned over 3.6 million acres in California and 1 million acres in Oregon this fire season causing deaths and widespread evacuations and the National Guard has been working tirelessly fighting these fires.

On September 5th, 242 people became trapped in the Mammoth Pool Reservoir area in the Sierra National Forest in California after the Creek Fire blocked the only road out of the recreation site. Aircrews from the 40th Combat Aviation Brigade flew into a pickup zone three times in the middle of the night, under night vision goggles, with near zero visibility from smoke, and flames coming within 50 feet of the aircraft, and saved lives. On Sept. 14, the seven crewmembers were recognized by U.S. President Donald J. Trump and each awarded the Distinguished Flying Cross. (see Briefings on page 6 this issue) In three days, 40th CAB crews evacuated 398 people and 27 animals from the Creek Fire.

Aircraft from the Army and Air National Guard, Marine Corps and Navy are part of the 101 aircraft assigned to support the firefighting efforts. National Guard members are joining firefighters on "fire lines" that are cleared with chain saws and hand tools to create buffer zones, flying rescue missions, dropping water and fire retardant by aircraft, and monitoring racing flames on drone video. As of this writing, twenty-six people have died since Aug. 15 with more than 60,000 evacuated from their homes, and over 50,000 structures under threat of fires and 3,900 destroyed.

OREGON NATIONAL GUARD PHOTO BY MAJ LESLIE REED

An Oregon Army Guard HH-60M Black Hawk helicopter out of Salem, empties a water bucket onto flames on the Brattain Fire on Sept. 15, 2020 near Paisley, OR.

CALIFORNIA NATIONAL GUARD HANDOUT

Dozens of evacuees are seen aboard a CH-47 Chinook helicopter after their rescue on Sept. 5, 2020 near Mammoth Pool Reservoir during the Creek Fire in the Sierra National Forest.

old grandson living in Sydney, Australia. Our daughter and son-in-law were required to work from home when COVID appeared, and they had many work calls throughout the day. Jackson's school had a very regimented program based on timelines, and their work interfered with these school times, so we did nightly (9 AM for him and 7 PM for us) 1 ½ hour Zoom classes to help. Jackson's other grandparents in Australia did the same. It made us realize how fortunate our family was in being able to participate, but sad about so many millions of families who don't have a support structure.

Truth be told we have reached a point where everyone needs to be an essential worker and children need to return to school, for the sake of the economy, for everyone's psychological well-being, for peace, for unity, and for sanity. We can do this!

For those experiencing mental health challenges, some proven helplines are ***Military One Source 24/7*** 1-800-342-9647, ***Veterans Crisis Line*** *1-800-273-8255 Press 1, and* ***TAPS*** *www.taps.org/covid/together.*

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

AAAA **Legislative** Report

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

Election 2020

This report will hit your mailbox just days before the 2020 election and there are many races to watch that will impact our Army Aviation Enterprise. Several Congressional seats that are up for bid will yield representation that will shape Army Aviation in the years to come. Fort Rucker, the home of Army Aviation, sits in Alabama's 2nd district. For a decade we've benefited from the support of Congresswoman Martha Roby who has sat on both the House Armed Services and Appropriations Committees. She is retiring so our interests will be in the hands of a freshman Congressman who will have to build a reputation and influence in Congress. Alabama's U.S. Senate race in which Auburn coach Tommy Tuberville is challenging Senator Doug Jones could also have implications for the support of our community. Regardless of the outcome, our Army Aviation senior leadership will continue to work with our political decision makers to advance Army Aviation priorities.

FY21 NDAA Conference

As we reported last month, the House and Senate finished their respective versions of the FY21 Defense Authorization Act (NDAA) and the Defense Appropriations Act. Now Congressional staff are racing to resolve the differences between House and Senate versions. Some differences are easy to resolve such as minor funding line differences or where both the House and Senate inserted similar policy provisions and they simply need to agree on the final articulation. Other differences are much more contentious such as if one chamber zeroed out a budget line and the other did not or where one chamber inserted a contentious policy provision that the other chamber opposes. Most changes are resolved at the staff level and when not, the issue is elevated to the "little four" which are the Republican and Democrat staff directors that oversee the two defense committees' staffs. When a policy provision cannot be resolved at the staff level, they move it up to their bosses, the four staff directors, who attempt to resolve it. When this fails, the issue moves to the "big four" which consists of the chairmen (Sen. Inhofe/Rep. Smith) and ranking members (Sen. Reed/Rep. Thornberry) of each committee. Conference for the NDAA and the Defense Appropriations bill will drag on well into the fall thus resulting in another Continuing Resolution (CR) situation. The funding authorization bill (NDAA) is likely to pass by year's end, but the defense appropriations bill which is needed to end a CR will likely not come until after the first of the year.

DoD Stimulus Money

COVID-19 decimated local economies and imposed extreme hardship on millions of Americans this year. The House and Senate reacted quickly in March and April to initiate a series of stimulus packages to push money to Americans and businesses in an effort to prevent a devastating economic recession and help preserve our pre-pandemic economic growth. Many lawmakers opposed the defense department gaining from these stimulus packages which aimed to assist in DoD's corona virus prevention measures and provide security and stimulus to defense industry partners. While many in our reader base work in government and the defense industry, many do not so we will explain why stimulus funding for the defense industry and why it may be necessary as we continue to fight the pandemic.

The National Technical Industrial Base (NTIB) is the industrial arm of U.S. manufacturing that produces goods for national security and dual use purposes. Think of Rosie the Riveter and how at times of war, this industrial base is essential to producing military items. In our case, we rely heavily on Boeing, Lockheed/Sikorsky, and Bell for our platforms both current and future, but many do not realize that the industrial base spans well beyond these enormous original equipment manufacturers (i.e., OEMs). Boeing does not manufacture every part of the thousands of parts that make up a Chinook helicopter. The OEMs have a list of suppliers that provide many parts that are assembled on their production lines. The supply chain goes many, many levels deep and the OEMs and their suppliers rely upon other suppliers that rely on raw materials to actually make a part as simple as a rivet. These lower level suppliers, many times, are mom and pop operations in rural America that survive contract to contract, so you can see how fragile some parts of the industrial base can be. Now throw in a global pandemic and it becomes clear how disruptive such situations can be to our very important supply chains.

Because the NTIB provides security for not only large defense manufacturers from which we source items like helicopters but also provides security to the smaller supply chain manufacturers, companies will often locate their facilities in districts where influential lawmakers reside. Essentially the NTIB helps ensure job security across America, which is why its health should remain a high, bi-partisan priority for our Congressional leaders.

The DoD did receive relief funds in the first two stimulus packages for internal operations and addressing pandemic impacts but not for pushing stimulus funds to the NTIB. There has been much advocacy in Congress to provide funding for the NTIB in follow-on stimulus packages, but no Congressional action at the time of this writing.

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.

Multiple ALE Contracts Awarded in Support of FVL

YUMA PROVING GROUND COURTESY PHOTO

The U.S. Army has awarded 10 contracts worth a total of $29.75 million to provide mature technologies in the area of air-launched effects (ALE), for future vertical lift aircraft, according to a statement released on August 24. The ten projects are categorized into three ALE lines of effort: air vehicle, mission systems, and payloads. Three projects for air vehicle were awarded to Alliant Techsystems Operations LLC, Northridge, CA; Raytheon Company, Tucson, AZ and Area-I Inc., Marietta, GA. Three rojects for mission systems were awarded to L3 Technologies Inc., Salt Lake City, UT; Rockwell Collins, Inc., Cedar Rapids, IA and Aurora Flight Sciences Corporation, Manassas, VA. And, four projects for payloads were awarded to Leonardo Electronics US Inc., Huntsville, AL; Technology Service Corporation, Huntsville, AL; Raytheon Company, Goleta, GA; and Alliant Techsystems Operations LLC.The Army will first assess each major component of ALE individually, rather than as a whole system; then will take those capabilities and bring them together into a full system prototype working with Georgia Tech. And finally, will integrate the system onto a platform, first targeting the Gray Eagle and AH-64 Apache attack helicopter. The ALE capabilities will ultimately be utilized with the Future Attack Reconnaissance Aircraft (FARA).Pictured is an Area-I Air-Launched, Tube-Integrated, Unmanned System, or ALTIUS, being launched from a UH-60 Black Hawk at Yuma Proving Ground, AZ, in spring 2020.

Defense Acquisition System Directive Goes Into Effect

On Sep. 8, 2020, Deputy Secretary of Defense David L. Norquist signed into effect DoD Directive 5000.01, The Defense Acquisition System. Representing one of the most transformational changes to acquisition policy in decades, the re-write was part of a comprehensive redesign of the DoD 5000 Series acquisition policies, which were streamlined and modernized to empower program managers, facilitate flexibility and enhance our ability to deliver capability at the speed of relevance. DoDD 5000.01 can be found at https://www.esd.whs.mil/Directives/issuances/dodd/. To learn more about the Adaptive Acquisition Framework, visit https://aaf.dau.edu/.

Coleman Takes Over DARPA

DARPA PHOTO

Dr. Victoria Coleman, an artificial intelligence and microelectronics specialist, was named 22nd director of the Defense Advanced Research Projects Agency on August 31, 2020. She is the third woman to head DARPA since its creation in 1958, following Regina Dugan, who served as director from July 2009 until March 2012, and Dr. Arati Prabhakar, who left the agency in 2017. Coleman had been serving as chief executive officer of Atlas AI, which offers what it calls "cutting-edge artificial intelligence" to analyze trends in developing countries.

AllClear Emerges From Aero Precision-Kellstrom Defense Merger

ALLCLEAR GRAPHIC

US-based Aero Precision and Kellstrom Defense have merged their operations to form military aircraft sustainment firm – AllClear, according to an August 17 announcement. Aero Precision, which was a parts distribution firm, purchased Kellstrom Defense, which specialized in maintenance, repairs, and overhauls, in March and the two companies moved to integrate their four business segments and eight subsidiaries across nine locations. Based in El Segundo, CA, where Kellstrom was headquartered, its CEO is Darryl Mayhorn, who previously led Aero Precision.

Advertisers Index

AAAA **Awards**

Order of St. Michael Inductees

GOLD

CW5 Sam R. Baker, III

SILVER

COL Wade B. Becnel, Ret.
COL Ernesto A. Cortez
COL Darrell A. Doremus
CW5 Andy G. Fisher
COL Charles A. Fish, Ret.
1SG Eric D. Kahle
LTC Mark E. Larrabee, Ret.
COL Andrew J. Rochstein
COL Talmadge C. Sheppard
CW5 Jared E. Thompson
COL Lance K. Van Zandt
COL John M. Vannoy
SGM Patricia A. Wahl
COL David A. Warnick

BRONZE

MAJ James E. Abernathy
CW3 Mark S. Alexander
CSM Jermaine Baldwin
1SG Travis L. Bauer
COL James F. Beattie
CW4 Jeffrey S. Bender
CW4 John P. Bergmann
CW4 Stephen R. Boyd
CPT Brendan Brye
CW4 Jason A. Cave
1SG Hector R. Chaves
CW4 Boyde W. Crawford
CSM Herbet D. Dean, Ret.
SFC Carlos I. Garcia
CPT Patrick Garcia
CW4 Travis Haney
SFC Curtis Hopper
John Steven Kelley
SFC Austin B. Kendall
CW3 Karl C. Knight
LTC Kacie M. Lee
SFC Daniel Milan
CW3 Patrick M. Montgomery
Joseph Myers
MAJ Angela Nolen
MAJ Matthew Perry
1SG Wilber Sanchez
CW3 Adriel Sauceda
CPT Michael W. Schreckenbach
CW3 Jamie B. Seymore
SFC John E. Shelton
CW4 Steven Shore
MAJ Adriana J. Silva
LTC Daniel Smith
MAJ Joseph Spencer
LTC Richard Spoon
CPT Kyle Valente
MAJ Eddie Walker
CW3 Michael J. Welch
MAJ Ryan G. Whipple
CW3 Daniel S. White
CW4 Josh Williams
CW4 Nathon A. Woelke
CW4 Adam R. Young
1SG Richard D. Young

Knight Inductees

CSM Brian A. Barkins
Janet M. Boots
CPT Noah H. Clay
LTC Rachael Hoagland
MG James J. Mingus
SFC David Ohlrich
MG John B. Richardson
Celines Rodriguez
MSG Kyle C. Seese
CPT Evan Wertz

Our Lady of Loreto Inductees

Tara Burney
Heather Causey
Kim Cronin
Carrie Donahue
Megan Flint
Lisa M. Hermann
Kerry A. Irvin
Amber Keener
Megan Martini
Mirna E. Reyes
Jennifer Smith
Jessica Thompson
Linda Wikel

AAAA Award Nominations Are Open NOW!

Recognize Our Soldiers!

Awards To Be Presented at the 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
- Top AAAA Chapter of the Year
- Top Senior Chapter of the Year
- Top Master Chapter of the Year
- Top Super Chapter of the Year

Nominations Due: January 1, 2021

quad-a.org

Thank You to Our Scholarship Fund Donors

*AAAA recognizes the generosity of the following individuals, chapters and organizations that have donated to the Scholarship Foundation from September 2019 through September 2020. The list includes donations received for all scholarships, as well as the General Fund which provides funding to enable the chapter, corporate, heritage and individual matching fund programs as well as national grants and loans. Donors marked with an * are partially or totally donating to the newly established Families of the Fallen Scholarship. Every penny donated to the Scholarship Foundation goes directly to a grant or loan as a result of the Army Aviation Association of America subsidizing ALL administrative costs!*

114th Aviation Company Association
7/17 Air Cav Association
AAAA Air Assault Chapter
AAAA Aloha Chapter
AAAA Arizona Chapter
AAAA ASE Speakers
AAAA Aviation Center Chapter
AAAA Badger Chapter
AAAA Central Florida Chapter
AAAA Colonial Virginia Chapter
AAAA Connecticut Chapter
AAAA Corpus Christi Chapter
AAAA Cowboy Chapter
AAAA Delaware Valley Chapter
AAAA Flint Hills Chapter
AAAA Gold Standard Chapter
AAAA Idaho Snake River Chapter
AAAA Iron Mike Chapter
AAAA Jack H. Dibrell/Alamo Chapter
AAAA Keystone Chapter
AAAA Lindbergh Chapter
AAAA Luther Jones Speakers
AAAA MacArthur Chapter
AAAA Mid-Atlantic Chapter
AAAA Minuteman Chapter
AAAA Mount Rainier Chapter
AAAA North Star Chapter
AAAA North Texas Chapter
AAAA Old Tucson Chapter
AAAA Phantom Corp Chapter
AAAA Rio Grande Chapter
AAAA Southern California Chapter
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Cynthia S. Campbell
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For more information about the Foundation or to make a contribution, go online to www.quad-a.org; contributions can also be mailed to AAAA Scholarship Foundation, Inc., 593 Main Street, Monroe, CT 06468-2806.

People On The Move

Aviation General Officer Promotions/Assignments

The Chief of Staff of the Army announced the following aviation general officer assignment:

U.S. ARMY PHOTO

BG Joseph A. Edwards II, commanding general (Troop Program Unit), 104th Training Division (Leader Training), Joint Base Lewis-McChord, Washington, to director of operations, Office of the Deputy Chief of Staff, G-9, U.S. Army, Washington, D.C.

Changes of Command/Responsibility

11th ECAB Changes Command

U.S. ARMY PHOTO BY PFC JULIA C. SCOTT

COL Roger F. Deon, Jr., outgoing commander of the 11th Expeditionary Combat Aviation Brigade, relinquishes the brigade colors to COL Andrew Cecil, deputy commander of the U.S. Army Reserve Aviation Command, at the change of command ceremony on Founders Parade Field at Fort Carson, Colorado, Sept. 12, 2020. Standing by to receive the colors is incoming commander COL Geoffrey J. Jeram (second from left) and CSM Carl M. Sheckles, Jr. Deon assumed command of the 11th ECAB in September 2018 and will be serving next as the Aviation Director for the U.S. Army Reserve Command at Fort Bragg, North Carolina.

Awards

NCARNG Apache Pilots Awarded DFC

NORTH CAROLINA NATIONAL GUARD PHOTO BY LTC MATTHEW DEVIVO

Two North Carolina National Guard AH-64 Apache pilots received the Distinguished Flying Cross for their actions in Afghanistan in 2018. CPT Stephen Scott and CW4 Eric Carver, both assigned to the 1-130th Attack Reconnaissance Battalion, received the medals for their support of the 7th Special Forces Group's Operational Detachment Alpha (ODA) 7225 during Task Force Panther. According to a NCARNG news release while providing cover to ODA 7225 in Uruzgan Province they began taking heavy enemy fire. Scott and Carver, flying in an Apache, quickly identified enemy positions and "engaged them after permission was given." They were "repeatedly engaging a robust enemy force at ... close range to friendly forces," and their steadfast reaction "resulted in a successful mission for ODA 7225 without injuries or loss of lives."

Task Force Javelin Soldiers Receive Purple Heart

U.S. ARMY PHOTOS BY SGT SYDNEY MARIETTE, 34TH EXP. CBT. AVN. BDE.

SFC Elmer Mayhew and SGT Jared Fossek stand in front of a CH-47 Chinook helicopter after being awarded the Purple Heart medal from their brigade commander, COL Greg Fix, on August 31, 2020, at Camp Buehring, Kuwait. Both Mayhew and Fossek received the award for injuries sustained during rocket attacks on March 14, 2020, while stationed at Camp Taji, Iraq with Delta Company, 1-189th General Support Aviation Battalion, Montana National Guard.

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People On The Move

Flight School Graduates

AAAA provides standard aviator wings to all graduates and sterling silver aviator wings to the distiguished 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.

35 Officers July 30, 2020

Commissioned Officers
2LT Shook, Collin J. * - DG
2LT Horwitz, Matthew S. * - HG
2LT Carver, Timothy J.
1LT Cottrell, David S., Jr.
2LT Dixon, Brian J. *
1LT Gagnon, Thomas J.
2LT Gunnells, Sarah G. *
2LT Sawatzky, Noah J.
2LT Scoggins, Nathaniel T.
2LT White, Jonathan H.

Warrant Officers
WO1 Winner, Michael D., II - DG
WO1 Magruder, Francis L., II - HG
WO1 Taylor, Liwayway A. - HG
WO1 Villanueva, Joshua J. - HG
WO1 Whitlow, Cameron A. - HG
WO1 Beecham, Dane N. *
WO1 Bennett, Cody S. *
WO1 Cole, Richard L.
WO1 Darden, Brent A.
WO1 Deyo, Ryan E. *
WO1 Dorado, Mariano
WO1 Heinz, Jacob W.
WO1 Johnson, Hope M. *

FSXXI Class 20-019

FSXXI Class 20-019

ALL PHOTOS U.S. ARMY PHOTO, FORT RUCKER PUBLIC AFFAIRS

WO1 Loftus, Joseph C. *
WO1 Mauro, Maranda G.
WO1 Milbury, Trevor C.
WO1 Miller, Lew C.
WO1 Moore, Nicholas D.
WO1 Passmore, Daniel J.
WO1 Price, Cary D. *
WO1 Ream, Darren P. *
WO1 Rubio, Jonathan
WO1 Sandoval, Rudy A.
WO1 Yanulis, Cody T.
WO1 Ziegler, Shelby A.

41 Officers August 13, 2020

Commissioned Officers
2LT Gutoske, Joseph H. - DG
2LT Bacon, Claudia J. * - HG
2LT Bibb, Abigail E. *
2LT Camacho, Chrystal J. *
2LT Fanko, Matthew P. *
2LT King, Isaac R.
2LT Myers, Jackson C.
2LT Stratton, Ryan D. *
2LT Triquet, Tyler M. *

Warrant Officers
WO1 Campbell, Tyler O. - DG
WO1 Allen, Travis S. - HG
WO1 Diaz, Antonio D. * - HG
WO1 Gottschling, Bruce E. - HG
WO1 Weier, Aaron A. * - HG
WO1 Albany, Austin W. *
WO1 Alvarado, Adrian
WO1 Alvarez, Ever E.
WO1 Brown, Robyn J. (CL)
WO1 Butterfield, Christopher L.
WO1 Clark, John H., IV
WO1 Cole, Preston C. *
WO1 Ferguson, Monty
WO1 Fousse, Daniel N. +
WO1 Gowan, Jared D. *
WO1 Gulino, David J.
WO1 Haulenbeek, Benjamin H. *
WO1 Hunter, Trevor W.

FSXXI Class 20-020

FSXXI Class 20-020

WO1 Joe, Matthias S.
WO1 Minnema, Jacob N.
WO1 Pina, Jose R. *
WO1 Poff, Andrew K.
WO1 Poulin, Brian M. *
WO1 Schwartz, Kyle S.
WO1 Sicilia, Joseph B.
WO1 Simashkevich, Kevin W. *
WO1 Stewart, Darius L.
WO1 Tharp, Christopher G.
WO1 Trageser, Ruth A.
WO1 Wardrope, Sarah M.
WO1 Watson, Dennis M.
WO1 Young, Justin G.

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

Flight School Graduates continued on next page

People On The Move

59 Officers August 27, 2020

Commissioned Officers
2LT Stancik, Kyle M. * - HG
1LT Blango, Edgar L.
2LT Carter, Nephi V. *
2LT Cicutto, Colton R. *
2LT Griffith, James A.
2LT Hatch, Colin D.
2LT Livanos, Demitrios C. *
2LT McFatridge, Keegan A. *
2LT Stratton, Ryan *
2LT Toguchi, Jason D.
2LT Vierkant, Eric C.
Warrant Officers
WO1 Wienckoski, Matthew J. - DG
WO1 Camp, Clinton J. - HG
WO1 Kohls, Patrick R. - HG
WO1 Logue, Justin M. - HG
WO1 Berner, Amy R. *
WO1 Blanco, Jason T.
WO1 Brown, Michael T.
WO1 Burch, Billy J.
WO1 Chacho, Victor S.
WO1 Chadwick, Aaron M.
WO1 Chavis, Ricky C., Jr. *
WO1 Comito, David P.
WO1 Dearman, Tyler G. *
WO1 Exler, Edward D. *
WO1 Ferguson, Coty J. *
WO1 Grigsby, Aaron C.
WO1 Ham, Jacob D.
WO1 Hickman, Courtney *
WO1 Hinojosa, Andrew R.


FSXXI Class 20-021-1


FSXXI Class 20-021-1

WO1 Kay, Elijah R.
WO1 Kennedy, Philip M.
WO1 Kittleson, Travis M.
WO1 Koveleskie, Jakob E.
WO1 Madere, Jacques A. *
WO1 Marshall, John W. *
WO1 Meek, Adam J.
WO1 Morales, Miguel A.
WO1 Oxley, Ryan N.
WO1 Patterson, Tyler A.
WO1 Peterson, Kenneth A.
WO1 Pezoa, Isaac M.
WO1 Presley, Curtis E. *
WO1 Puckett, Tristan-Lukas M.
WO1 Ritchie, Robert M.
WO1 Robertson, Michael J.
WO1 Rolapp, David T. *
WO1 Romberger, Andrea J. *
WO1 Runge, James C.
WO1 Shropshire, Joshua B.
WO1 Simmons, Clifford D.
WO1 Smith, Stephen D. *
WO1 Staffnik, Anders I.
WO1 Timko, Corey A.
WO1 Townsend, Joseph P.
WO1 Twigg, Jared S.
WO1 Von Dran, Andrew T.
WO1 Welch, Robert E.
WO1 Wilhelm, Trey E.

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

ADVANCED INDIVIDUAL TRAINING (AIT) GRADUATIONS

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

AH-64 Attack Helicopter Repairer (15R)

Class 024-20
PVT Gianni Lopez-DG
PFC Orlando Aponte
PV2 Joel Camacho
PVT Samuel Cardona
PFC Sean Daniels
PVT Eisleer Castillo
PV2 Kyle Causey
PVT Alvaro Delgado
PVT Noah Hall
PV2 Eric Hernandez
PVT Caleb Miller
PV2 Julianne O'connor
Class 025-20
PV2 Eric Hoekstra-DG
PFC Luis Duran-Velez
PFC Keanu Johnny
PV2 Michael Kerr
PVT Eduardo Navarroadame
PFC Angel Nieves
PV2 Jeremy Reyes
SPC Eric Rivera
PV2 Matrix Tabion
PVT Peyton Zipf
Class 026-20
PV2 Hunter Wright-DG
PFC Diego Garcia
PVT Jodavid Martin
PVT Jaime Martinez
PVT Mathew Norton
PVT Alexander Park
PVT Steven Pfieffer
PV2 Colby Tucker
PVT James Turner, Jr
PVT Christopher Young
PV2 Nicholas Throgmorton
Class 027-20
PV2 Cade Johns-DG
PV2 Phillip Anderson
PV2 Daniel Barta
PV2 Hunter Burrows
PV2 Colin Calcote
PV2 Michael Crane
PV2 Samuel Hagberg
PFC Noah Klap
PV2 Thomas Marte
PV2 Joseph Reinhardt
SPC Lionnel Nkurunziza
SPC Valentin Inkov

CH-47 Medium Helicopter Repairer (15U)

Class 203-20
PV2 Seth J Cary-DG
PV2 Ashae Aiesha Allison
PV2 Ronaldadrian T. Almanzor
PV2 Travis Vaughn Barnes
PV2 Gavin Imran Brooks
PV2 Ryan Alexander Crowe
SGT Kevin Wayne Douglas
PV2 Ralphvictor Tocao Lluch
PV2 Taiwo Olumide Olaleye
PFC Ricardo J.Remonmolina
PFC Justin Tarik Simon
Class 204-20
PFC Joshua S. Bradley-DG
PV2 Nickolas Wayne Brewer
PFC Dalton Anthony Byrnes
PV2 Cody Lee Calhoun
SPC Romane N Daley
PV2 Gaven Riley Debault
PV2 Cameron Bradley Detrick
PV2 Tanis Elijah Dodson
PV2 Logan Daniel Ronsisvalle
PV2 Luis Eduardosoto Trujillo
PFC Taalotausala I. Tuiasosopo
PV2 Burak Yildiz
Class 025-20
PFC Zachary C. Lounsberry-DG
SSG Brandon Dewayne Casey
PV2 Michael Lane Cornelius
PV2 Michael Lee Griffith
PV2 Dalton Gates Hamilton
PV2 Andre Morell McNeal
PV2 Natanael Alejandro Murillo
PV2 Christian Ruben Ramos
PFC Camren Nicholas Ryan
PFC Antonio Estefan Sanchez
PV2 Zachary David Scotton
Class 026-20
PV2 Wesley J. Jensen-DG
PFC Matias Andres Alarcon
PFC Heath Michael Foster
PV2 Richard Hinojosa
PV2 Felipe L Leija
PV2 Matthew Gabriel Lucero
PV2 Eric Lee Lufkin, Jr
PV2 Isidro EDGardo Reyna
PV2 Joshua Alexander Robles
PV2 Chayton Michael Sykes
PV2 Braden Anthonynino Vivola
PV2 Chase Anthony Westerbur
Class 027-20
PV2 Sean M. Gallaway-DG
PV2 Cade Michael Eastwood
PFC Dominique Devon James
PFC Christian Michael Lang
PV2 Christopher Seth Ledford
PV2 Rithou Melus
PV2 Grayson Kenneth Newton
PFC Rigoberto Ruiz
Pv1 Brandon Shane Scott
PV2 Anthony David Sellers
PV2 Alberto Antoni Vallefenelon

UH-60 Helicopter Repairer (15T)

Class 053-20
SPC Jessica Renee Barrett-DG
PV2 Samuel Rutherford Allison
PV2 Sara Jane Bascara
PV2 Dean Bastick
PFC Braxton Louis Bowie
PV2 Justin Michael Boynton
SPC Misael Braudrick
PV2 Carl John Cooper
PFC Tanna Jo Furlow
SPC Kathryn Marie Johnston
PFC Courtney Lynne Tate
Class 054-20
PFC Kaden James Rankin-DG
PV2 Jacob James Fowler
SPC Jowan Jeffrey Fritsch
SPC Arturo Rubio Gastelum
PFC Adam Richard Greenwood
PFC William Hunter Gully, IV
PFC Simeon N.Kretzschmar
SPC Bradley H McAfee
PFC Carlos J. Nieves Ramos
PFC Steven Wayne Szostak
PFC Arnold Torres
PV2 William Charles Wardrip
Class 055-20
SPC Angel Alexander Cruz-DG
PV2 Carlas Leontayeteferi Allen
PV2 Christian Calle
PFC Dale Edmund Cullen
PV2 Brian Anthony Dial
PV2 Aaron Duane Edman, Jr
PV2 Everett William Gropp
SPC Adrian W Henry
PV2 Jarred Matthew Hudson
PFC James Matthew Huff
PFC Dewey Michael Ivey, Jr
PFC Trystan Blake McCoy
Class 056-20
SPC Austin Taylor Mobley-DG
PFC Zachary Alex Kendall
PV2 Tyler Jacob Killian

People On The Move

PVT Daltonaaron Lee Konitzer
PV2 Kody Allen Lyle
PFC Jordan Jonathan McGarry
SPC Erving Werner Morelius
PV2 Isac Sanchezgarcia
PV2 Haden Mark Scott
PFC Lane Thomas Shockey
PFC Marquis Ikea Thomas
PFC Taylor William Uetz
Class 057-20
PFC Benton Luke Johnson-DG
PFC Thomas Edward Bravo
PFC Jason Lee Brown
PV2 Robert Jesse Burgezahm
PV2 Jackson Wayne Burrell
PFC Jacob Byrne
SPC Christopher N.Cambata
PV2 Kyler Jack Crass
PV2 Jacob Joseph Hensel
PFC Jeffrey Dale Quick, Jr
PV2 Ryan David Schroeder
PV2 Prajwal Singh
Class 058-20
PFC Alexander J. Alvarez-DG
PFC Tomas Tomas Agraitocana
SPC Benjiman C. Blakney
PV2 Aron Presley Cisneros
PFC Zerrick David Nance
PFC Jamesdaniel M.Rodriguez
PFC Rusel Abdiel Sedanegron
PV2 Riley A. Simmermon
PFC Alec Walkerscott Spurlock
PFC Caleb Levi Williams
PFC Cameron Bryant Wilson
Class 059-20
SPC Edgar Eli Diazaguirre-DG
SPC Jahadul Alam
PV2 Jazmine Lee Baguley
PVT Sebastian Franz Brandner
PV2 Jojo Thomas Crothers
PFC Zachary Steele Higgins
PFC Sydney Savanna Jackson
PV2 Yuliya Serdyuk
PV2 Andrew Ryan Vanveelen
PV2 Riley Tanner Williams
SPC Jiwon Yoon
Class 060-20
PV2 Joseph Edwin Powell-DG
PV2 Jose J. Olivaresguerrero
PFC Charles Melvin Quinn
PV2 Daniel Omar Ramirez
PFC Collin Audie Sieg
PV2 Milton A Stephens, III
PFC Ethan Mark Thompson
PV2 Austin Everett Upchurch
PV2 Alacksander Thor Whiting

Aircraft Powerplant Repairer (15B)
Class 012-20
PFC Daniel Alvarez
PV2 Malcolm Louis Brelpreston
PV2 Ethan Michael Briick
PV2 Jordan A. Campusano
PV2 Jose Johnny Castillo
SPC Vee Liam Chan
PFC Joshua T. Copeland
PV2 Courdell Paul Daughrity
PV2 Cody Johnwilliam Decker
SPC Donte Nwangi Green
PVT Xylar Roger Hodge
PFC Mariam Masuddramani
PV2 Kalan J Nelson

Aircraft Powertrain Repairer (15D)
Class 006-20
PV2 Joseph T. Reece - DG
PV2 Lennon Skye Baugh
PV2 Leandre Brown II
PFC Tyler Gage Bunch
SPC Chrisopher E.Canfield
PFC Teancum Aaron Carlson
PFC Canton McCaleb Chapman
PV2 Francisco Crespo Resto
PFC Hannah Brooke Doyel
PV2 Damien Stephen Munroe
SGT Dennis Banado Ong
PV2 Alcameron F.Richmond
PV2 Kristian Jesus Salas
PV2 Franklin Ray Troublefield
SPC Yifan Zhang

Aircraft Electrician (15F)
Class 012-20
PV2 Kyra A. Hokinson - DG
PV2 Jason Paul Brenner
PV2 Cody Nicholas Brown
PFC Donovan Anthony Childers
PV2 Levi Jay Coley
PV2 Cory Don Farley
PFC Tucker Ray Jett
PFC Estefani Mercadoestrella
Class 013-20
PV2 Trenton C. Lemoine - DG
PV2 Enroque Aaron Nieto
PV2 Jonathan Daniel Quinones
PFC Gilbert Rangel
SPC Jonathan Daniel Sylvies
SPC Patrick William Toomey
PV2 Anthony Alipio Vidal
PV2 Nathaniel Larry Weldman
Class 015-20
PV2 Hunter G. Van Drunen- DG
PV2 Taner Reynolds Allsup
SPC Ashkan Hosseini
PV2 Tyler Lane Meador
PV2 Matthew Scott Orahood
PVT Fernando Vazquez-Narvaez
PV2 Daniel Akil Ward
SPC Kuo Zhang

Aircraft Pnedraulics Repairer (15H)
Class 011-20
PV2 Nathan Robert Ritter - DG
PFC Ace Hunter Harper
SPC Mikhail Musikhin
PV2 Jesair Ruben Pacheco
PVT Jerome Prudente
PV2 Christopher R.Sheppard
PV2 Zackary Allen Winstead

Aircraft Structural Repairer (15G)
Class 007-12
PFC Jun Steven Bae - DG
PV2 Joseph Daniel Connell
PFC Jose Santos Cubas
PV2 Christian Dion Daen
PFC Vinh The Diep
PV2 Angelo Figueroa
PV2 Trace Patrick Hart
Avionic Repairer (15N)
Class 010-20
PFC Connor M. Gordon - DG
PFC Katie Michelle Anderson
SPC Polonia Yisel Aristy
SPC Justin Raymond Austin
PFC Tyshaun Khalia Bailey
PV2 Tyshaun Khalia Bailey
PV2 Izabela Faye Campbell
PFC Bryan Jose Cruz Silva
PFC William James George, Jr
Class 011-20
PFC Kent T. Mauney - DG
PFC Elijha Arthur Ledoux
SPC Michael Tyler Nelson
PFC Tyler Andrew Partridge
SPC Michael Terry Ridenhour
PFC Noah James Simon
PFC Dylan Michael Thibodeaux
PV2 Edwin Abraham Torres

AH-64 Armament/ Electrical/Avionic Systems Repairer (15Y)
Class 011-20
PV2 Jeremy Allen-DG
PVT Jonathan Bello
PVT Caleb Blanchardunn
PVT Owen Cook
PV2 Jordan Cox
PV2 Weston Filgo
PVT Brian HoDGe, Jr
PV2 Tyler Horneman
PVT Zachary Miller
PV2 Martee Munns
PVT Elvin Navarro
Class 012-20
PVT Joshua Watson-DG
SPC William Arrowood
SPC Brandon Griffith
SPC Avery Howard
SPC Luis Moreno
PVT Bryan Sanchez
PVT David Stewart
PVT Luis Torres
PVT Joseph Touponce, Jr
PFC Joseph Vinson, II
SPC Zechariah Westergaard
Class 013-20
PVT Derek Center-DG
PFC Nikolas Blenden
PV2 Kody Crouch
PVT Parker Danielson
PVT Scott Grand
PFC Ryan Greenlee
PVT Dasan Hoggard
PFC Christopher Johnson
PVT Jameres Johnson
PVT Kameron Moine
Class 014-20
PV2 John Wingo, Jr-DG
SPC Kyle Gabbard
SPC James Moore, Jr.
PVT Austin Player
PV2 Benjamin Rice
SPC Cameron Rucker
PV2 Justin Simon
PVT Bram Stone
PVT Lamacairoise Taylor
PFC Scott Tolzman

Unmanned Aircraft Systems (UAS) Graduations

UAS Repairer

AAAA Congratulates the Following Army Graduates of The Unmanned Aircraft Systems Repairer Course, MOS 15E, At Fort Huachuca, Az.

Shadow UAS Repairer Course
5 Graduates, 27 July 2020
SGT Tyler Wayne Hill - HG
SSG Nelashley M. Pascual
SPC Christopher T. Berninger
SPC Abel Valdez
PVT Gabriel J. Coile

Grey Eagle UAS Repairer Course
12 Graduates, 28 July 2020
PV2 Ashton L. Etheredge -DG
SPC Sergio A. Lara - HG
PFC Thomas F. Mccoy
PV2 Kamal K. Ivy
PV2 Dylan R. Phillips
PV2 Cody M. Rathbone
PVT Elmer J. Colon
PVT Heath G. Crittenden
PVT Christian G. Hart
PVT Jonathan B. Malone
PVT Bela Mark
PVT Isaac J. Miller

UAS Operator

AAAA Congratulates the Following Army Graduates of The Unmanned Aircraft Systems Operator Course, MOS15W, At Fort Huachuca, Az.

Shadow UAS Operator Course
38 Graduates, 24 July 2020
PFC Dakota C. Lawther -DG
PVT Hunter J. Arentz - HG
SGT Brandon Montehermoso
SPC Thomas C. Baltes
SPC Christopher L. Ciulla
SPC Stephanie J. Drake
SPC Tyler W. Selige
PFC Ryan T. Cochrane
PFC Peyton R. Elizondo
PFC Taj R. Harrell
PFC Tristan W. Marchese
PFC Rebecca D. Schake
PV2 Caleb H. Barrow
PV2 Bailey A. Benner
PV2 James D. R. Carver
PV2 Nicholas J. Foley
PV2 Vanesa E. Freire
PV2 Joshua Gaspard
PV2 Joshua C. Holland
PV2 Alex J. Maisonet Luciano
PV2 Nathan A. Myers
PV2 Javier Nava
PV2 Geoffery Pinkney
PV2 Victor A. Rivera
PVT Alexander Aguilar
PVT Anthony J. Booth
PVT Armando J. Contreras
PVT Blake F. Eiffert
PVT Wesley C. Gifford
PVT Joseph A. Guetter
PVT Jason M. Haynes
PVT Raymond C. Huhn
PVT Luke R. Leblanc
PVT Branson M. Malcom
PVT Christos P. Nikitopoulos
PVT Tyler K. Santos
PVT Christopher M. Turner
PVT David M. Van-Treese

DH - Distinguished Graduate
HG - Honor Graduate

UPCOMING EVENTS

NOVEMBER 2020

16-18 AAAA Joseph P. Cribbins Training, Acquisition and Sustainment Symposium, Huntsville, AL

16 AAAA National Executive Board & Scholarship Foundation Board of Governors, Huntsville, AL

DECEMBER 2020

7-8 Aircraft Survivability Equipment (ASE) Symposium, Kissimmee, FL

12 The 121st Army-Navy Game, Lincoln Financial Field, Philadelphia, PA

Art's Attic

By Mark Albertson

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

25 Years Ago

October 31,1995

Briefings

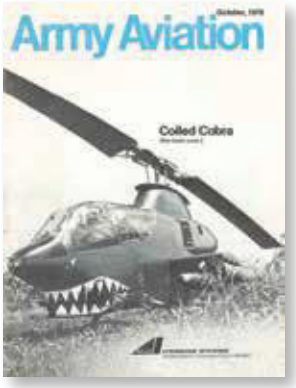
The Dustoff Association will be holding its 17th Annual Reunion at the Holiday Inn Northwest in San Antonio, Texas, on 23-25 February 1996. For more information, contact The Dustoff Association, P.O. Box 8091, Wainwright Station, San Antonio, Texas, 78208, or call "Doc" Kralich at (210) 558- 7764.

Briefings

A prototype of the E-Hunter Unmanned Aerial Vehicle (UAV), a new derivative of the U.S. Government Joint Tactical UAV (JT-UAV), made its first flight 25 July 1995 at a test site in Israel. This TRW/Israel Aircraft Industries' prototype of the E-Hunter UAV, was developed, as was the E-Hunter, as a cost-effective-low mark approach to add long endurance capability to the Hunter Joint Tactical UAV. The E-Hunter will be able to loiter on station more than 25 hours at an altitude of 25,000 feet.

Multi-Service Bulletin Board System

"The 'educated bullets' of today and tomorrow for the U.S. Army in any combat situation will reside in its numerous target sensing systems. "Their ability to be effective against the rapidly-changing threat environment relies on the capability to electronically receive updated programming data. "To enhance this capability, the Army Reprogramming Analysis Team has joined forces with the USAF at the Air Warfare Center (AWC) to participate in the Multi-Service Electronic Combat Data Distribution System, i.e. the Bulletin Board System (BBS). See pages 27-29, "The Multi-Service Bulletin Board System," by LTC Peter McGrew, USMC, (Ret.), Army Aviation, October31, 1995 issue.



50 Years Ago

April-May 1970

An Army First

September 21, 1970, General William C. Westmoreland, Army Chief of Staff, was officially rated, an Army Aviator. The honor was bestowed during a September 21 dinner, honoring four graduating classes of 209 commissioned and warrant officers from USAAVNS, from MG Delk M. Oden (right), who pinned on General Westmoreland's wings with Mrs. Oden, as one of his last official acts as commandant of the School. General Westmoreland began is flight training at Fort Campbell some years ago. Last year, he began an intensive rotary wing flight training program under CWO Charles Astrike, an IP. The general has continued his flight training at both Fort Rucker and Washington, D.C. General William C. Westmoreland is the first Army Chief of Staff to receive Army Aviator wings.

Sikorsky Unveils New Gunship

Upwards of 350 representatives and guests, ranging from government, the military, industry and the press, gathered to view Sikorsky's new high-speed twin-turbine attack helicopter. The coming out party for the gunship was held at the Stratford Connecticut Sikorsky facility, September 22. Named the "Blackhawk," the S-67 was financed by Sikorsky, in an effort that took just nine months, from management approval to rollout. The S-67 is a version of the H-3 (S-61) military series; which includes the U.S. Army and USMC VH-3 helicopters, used to shuttle the president and other government officials. *See pages 38 and 39, "Sikorsky Unveils New Gunship," Army Aviation, October 1970 issue.*

Army Aviation Hall of Fame

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

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

The deadline for nominations for the 2022 induction is June 1, 2021

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

Colonel John C. Geary

Army Aviation Hall of Fame 1989 Induction - Atlanta, GA

In 1943 John Geary was already a Master Sergeant in the Army when appointed to attend the Military Academy at West Point. After graduation he took pilot training at San Marcos, Tex., and then graduated from the Air Force Test Pilot School at Edwards Air Force Base, California, where he achieved the highest academic grade in his class as one of a very few U.S. Army pilots to undergo that training.

After earning his M.S. Degree in Aeronautical Engineering at the University of Michigan in '56, Geary eventually emerged as one of the Army's most qualified and experienced engineering test pilots, with flight time in 35 different varieties of fixed wing aircraft (many of them experimental) and 20 types of helicopters.

A Master Army Aviator with more than 4,000 hours (including 300 logged in combat in Korea and Vietnam), he pioneered the concept of "lead the fleet" testing while assigned to the U.S. Army's Transportation Test and Support Activity at Ft. Rucker. Under his direction new model helicopters were flown under a demanding, accelerated schedule to discover potential problems in maintenance and logistic support requirements as early as possible.

On one occasion four helicopters of the same type were flown 1,000 hours each in an elapsed time of 82 days, an astonishing accomplishment that under normal circumstances would take six months to achieve the same results.

A CH-47 Chinook Project Manager at one point, his last post before retirement was as Director of Research, Development and Engineering at the U.S. Army Aviation Systems Command in St. Louis.

Above all, John Geary was a soldier, giving to the Army and his country 34 years of selfless, dedicated, highly effective service.

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