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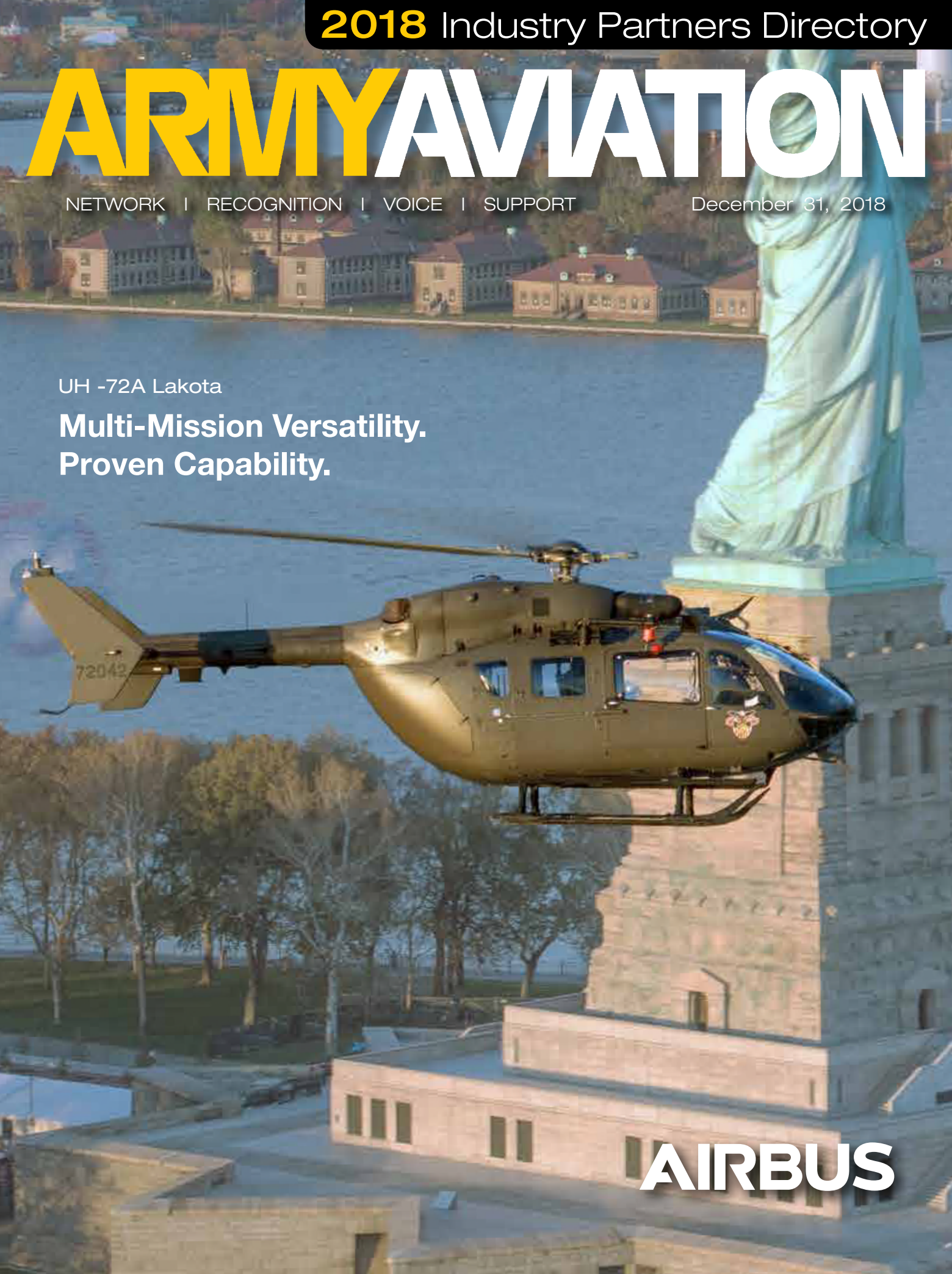

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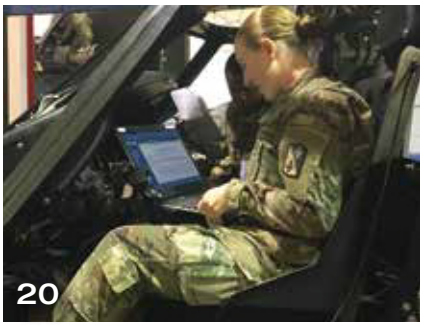
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AAAA NEWS

ARMY AVIATION COMMUNITY NEWS

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On The Cover

PAID ADVERTISEMENT: Available in multiple configurations, the UH-72A Lakota is a key component of the Army's Aviation Restructuring Initiative (ARI) and the primary rotary-wing trainer for the U.S. Army at Fort Rucker, Ala. Lakota aircraft have been employed extensively in support of Customs and Border Control operations along the U.S. Southwest border and in response to wildfires in California, and Hurricanes Irma and Harvey. Caption provided by the advertiser.

Briefings ▶ *Late Breaking News - Announcements*

41st President George H.W. Bush Dies

OFFICIAL PHOTO

George H.W. Bush, the 41st president of the United States and the father of the 43rd President, died in his Houston, Texas home Nov. 30 at age 94. The last veteran of World War II to serve as president, he helped guide the nation and the world out of a 40-year Cold War. A former naval fighter pilot who was shot down over the Pacific and awarded the Distinguished Flying Cross, he organized the 30-nation coalition that defeated Sadam Hussein's invasion of Kuwait in Operation Desert Storm. He was given a state funeral at the National Cathedral on Dec. 5, and interred at his presidential library in College Station, TX. May he rest in peace.

Pinks and Greens

U.S. ARMY PHOTO

The Army announced that it will adopt a throwback service uniform as early as 2020. Formerly known as the "pinks and greens," the World War II-era officer's uniform could go Army-wide as soon as 2020, according to a release that was posted Nov. 11, Veterans Day, to the Army's website. "The current Army Blues Uniform will return to being a formal dress uniform, while the Army Greens will become the everyday business-wear uniform for all soldiers," the release said. New soldiers will receive the uniform when they reach their first unit of assignment. The standard uniform set-up will require pants and brown leather oxfords for both men and women. Women will have the option to wear a pencil skirt and pumps. Everyone will also be able to buy a leather bomber jacket as an outerwear option. The rest of the Army would have until 2028 to pick up the new uniform.

Hurricane Michael Relief

U.S. ARMY NATIONAL GUARD COURTESY PHOTO

A New York Army National Guard CH-47 Chinook helicopter transports search and rescue personnel and their all-terrain vehicles to St. Teresa, along the shoreline of the Florida panhandle October 12, 2018. The New York Army National Guard Soldiers deployed two Chinooks and two UH-60 Black Hawk helicopters along with 25 crewmembers to Tallahassee, Florida to assist with response and recovery efforts for the Florida National Guard following Hurricane Michael.

Free Journeyman Certificates For Soldiers

Soldiers in more than 100 MOSs can now earn civilian credentials through the United Services Military Apprenticeship Program at no extra cost or use of benefits, according to a Nov. 29th release from Training and Doctrine Command. Soldiers can pick one of more than 100 job titles that fit their military occupational specialty's description and self-enroll at the USMAP site which lays out a four-step process for selecting a trade, enrolling, logging hours and then completing the apprenticeship. Advanced individual training will serve as official instruction, and time served once you're assigned to a unit counts as on-the-job hours. Almost all aviation and aviation support MOSs are eligible. Go to *https://usmap.netc.navy.mil/usmapss/static/armyMos.htm.*


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President's Cockpit

Transitioning into the New Year

Wow! Where did 2018 go? It seems the old adage may be true, "Time flies when you are having fun!" 2018 comes to an end and 2019 is just around the corner.

The last couple of months have been a flurry of AAAA activities from the National Executive Board, to the Senior Executive Associates meetings to the Cribbins and ASE symposia, to chapter meetings that keep us focused on our mission, "Supporting the U.S. Army Aviation Soldier and Family" – as well as winter is fast upon us.

Your all-volunteer national officers, including MG (Ret.) Schloesser, MG (Ret.) Crosby, MG (Ret.) Davis, CW4 Chambers, LTC (Ret.) Drazbczuk, and MG (Ret.) Eisner, and I have been trying to keep up with you all by visiting a lot of chapters especially in the last few weeks as you held your holiday events around the country; and a couple are scheduled to kick off the new year as well.

Again, we are reminded as we visit you to support your local chapters how vital they are to everyone's AAAA experience. The 78 chapters are the life blood of AAAA National and the 17,400 members are the lifeblood of the chapters. We are also reminded that no matter what we do at the national level, we can never properly recognize all the personal and professional sacrifices you make every day. We are especially cognizant of the sacrifices we all ask of our families and loved ones as we step up to defend our nation.

This is the time of year when we really all need to take a few moments and express our gratitude and appreciation to those closest to us; mentors, friends, loved ones and family for their continuing guidance, support and love.

This is also a time for us to give thanks for how blessed we are to live and grow up in the most incredible nation on earth – the United States of America. Please keep all who are deployed and serving in harm's way in your thoughts and prayers.

Looking forward to 2019, we hope to see many of you at the AAAA Annual Summit 14-16 April, 2019 in Nashville. It is shaping up to be bigger and better than ever thanks to the efforts of so many. Although Opryland is already sold out, you can check first on the AAAA website with the overflow hotels we booked right across the street for availability, and if that does not work for you please contact Opryland and they will place you at the closest available Marriott properties in the area.

Registration and event ticket sales start soon on January 7, 2019 so get ready to log on and lock in your attendance for an outstanding professional program, as well as the formal Hall of Fame Induction Banquet on Monday, April 15, and the Soldier Appreciation Dinner Concert on Tuesday evening the 16th.

Finally, stand by for more membership initiatives from our VP Membership, CW4 Becki Chambers. The increased benefits package that she launched last month has been a huge success and she is just getting started! Remember – the challenge is 20,000 members by the Summit in 2020 but there is no reason we cannot hit that goal sooner. If every member just brought in one new member we would be over 34,000.

Again, thanks for all you do and have done for our association, the Army and the nation. Stay safe and take some time to say thanks to those around you. That's an order!

Happy Holidays and a very Happy New Year to all!

BG Steve Mundt, Ret.
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Editor's Note: For this Industry, Research & Development, and Science & Technology special focus issue, the branch chief, MG William K. Gayler, has coordinated having the U.S. Army Program Executive Officer for Aviation, BG Thomas H. Todd III, and the new PEO Avn. Sergeant Major, SGM Woody Sullivan, provide the lead "To the Field" command group articles.

PEO Aviation: Meeting the Demands of the Future Battlefield

By BG Thomas H. Todd III

Our Army faces many challenges as we shift focus from the counter-insurgency fight to near-peer conflicts.

Over the last decade of combat operations, Aviation has operated with the advantage of air superiority and has been able to provide the ground commanders the movement of troops and supplies as well as fire support in an unimpeded fashion. However, over the past decade our adversaries have been very adaptive and have steadily modernized their forces. The battlefield of the future will be more lethal, greatly expanded, and contested in all domains. At PEO Aviation, we are designing, developing and delivering the equipment and capabilities our Soldiers require to fight and win on current and future battlefields.

At PEO Aviation selfless service is the hallmark of our trade. While we are skilled technologists, that is not why we come to work – we are here to serve Soldiers, first and foremost. Combat Aviation is our core competency and our vision is centered on delivering complementary sets of capability that perform in an integrated architecture as a combat aviation brigade (CAB) system. In building the CAB of the future, we are shifting from proprietary, platform-centric solutions to equipment and capabilities enabled by commonality, modularity, and open systems architectures, thereby allowing an incremental approach to fleet modernization.

Army Aviation has a rich history – the Black Hawks, Apache and Chinook models flying today are not the same as generations past. Aviation platforms have been steadily improved over time to keep ahead of emerging threats and yield the capability and performance that the field requires. As the materiel developer for Army Aviation, we take technically matured prototypes and ensure that they are affordable, producible, survivable and reliable, on a scale that is unmatched by any other Service or fleet.

The Army is placing emphasis and critical resources to rapidly transition disruptive technologies into prototypes that we will, in turn, build, test and deliver to achieve the conditions set forth by the Secretary of the Army for the Army of 2028. We also have a responsibility to set the conditions for continuous, incremental capability improvement, which we are accomplishing through our current portfolio.

The Chinook Block II is a tremendously important capability, and the Advanced Composite Rotor Blade (ACRB) has demonstrated an expanded mission envelope. The Improved Turbine Engine Program and ACRB are prime examples of successful Science & Technology transitions across the proverbial "valley of death" that will yield increased performance and capability.

U.S. ARMY PHOTO BY CHARLES ROSEMOND, TNG. SPT. ACTIVITY, EUROPE

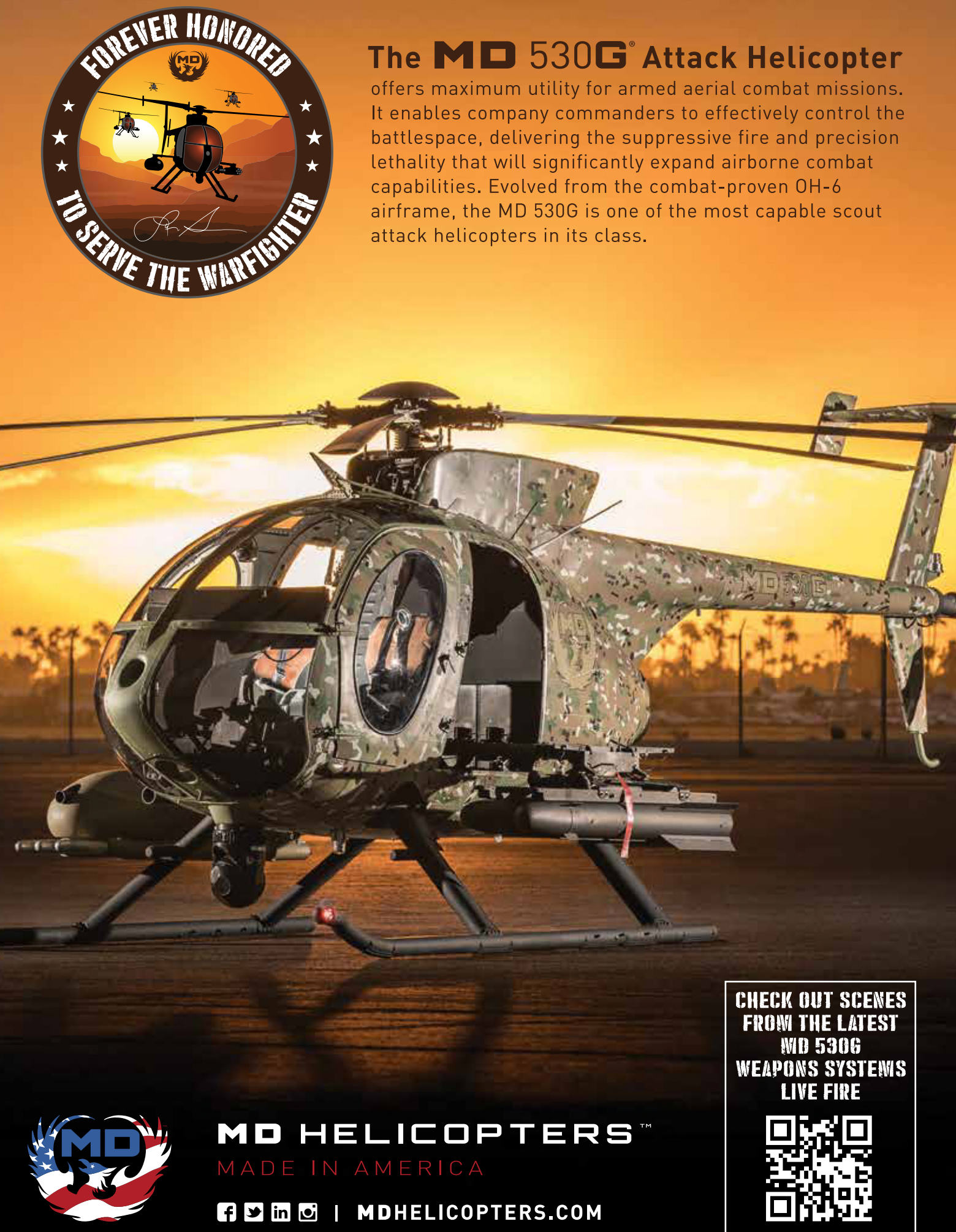
A U.S. Army CH-47 Chinook helicopter with the 1st Air Cavalry Brigade from Fort Hood, Texas returns from a maintenance test flight as a UH-60 Black Hawk comes to a hover March 7, 2018, at Katterbach Army Airfield in Ansbach, Bavaria, Germany.

We are combining the AH-64E Apache FOT&E event this fiscal year, with the JAGM, to gain efficiencies and leverage opportunities to improve performance. The Gray Eagle Extended Range has demonstrated a 67% increase in platform endurance, and is our longest loitering sortie aircraft. We are looking forward to a successful limited user test of the UH-60V Black Hawk, which boasts the first instantiation of an open systems architecture mission computer.

Within the year, we will be rolling out the initial capability of a ***CAB Architecture Integration Lab***, which will be comprised of our actual software and hardware with a representative CAB architecture. This will ultimately enable us to work with the defense community to prototype capabilities across multiple platforms in a simulated operational environment to reduce risk, speed up technology insertion and rapidly deliver capabilities. Through rapid adaptation of matured technologies, we can transform aircraft performance through component improvements. New airframes are only produced every 30-40 years, so this incremental approach ensures that we deliver capability to the field when it is ready without unnecessary delay.

PEO Aviation is working closely with our Aviation Enterprise partners to support the goals of our Army. We are committed to maintain an operational focus while implementing results-oriented acquisition strategies to allow for rapid adaptation of crucial technologies and incremental delivery to the CAB now and in the future.

BG Thomas H. Todd III is the Army Program Executive Officer for Aviation located at Redstone Arsenal, AL.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Finding Balance 2.0

By CW5 Joseph B. Roland

As the Branch continues to close technical and tactical gaps through revised programs of instruction (POIs), training support packages (TSPs), doctrine, and the Aviation Warfighting Initiative (AWI) while addressing under-accessions and higher than normal attrition rates I wanted to take some time to address "Finding Balance" as we approach the holiday season.

U.S. ARMY PHOTO U.S. ARMY NATIONAL GUARD PHOTO BY SGT AVERY CUNNINGHAM

A U.S. Soldier with Charlie Company, 3rd Battalion, 126th Aviation Regiment (Air Ambulance), 86th Troop Command, Garrison Support Command, Vermont National Guard, embraces family during a deployment ceremony at Army Aviation Support Facility, South Burlington, VT, June 14, 2018.

I have been in search of the elusive balance between family, profession, and self for over 30 years. With all of the changes within aviation and our warfighting profession, finding the perfect equilibrium may not be attainable, but managing the scales will ensure that when it's time to hang up your spurs you can walk away with your family and reputation.

Make Time for Family

Young aviation warfighters require frequency and repetition to establish the fundamental foundation and muscle memory required in this profession. It is during this initial transition to military life that the scales will tip towards technical mastery of the aviation profession as you seek to gain competence and develop as leaders. During your initial development in the operational force you will be challenged to get everything done. Your ability to understand intent and leader expectations and to prioritize will help you find the time and space for your family. As we continue to do more with less, finding time for self and family will become harder and harder – you must strive to be as efficient and effective as possible at work and at home in order to keep the scales balanced. I learned early on to keep my family in the loop regarding career decisions, my commander's expectations, and my professional ambitions. An open dialogue with your family will go a long way in managing their expectations, and you may be surprised by how understanding and supportive they can be if they are part of the process. When you are at home, be deliberate and intentional with your family – they should be your focus.

Effective Leadership

Senior leaders must ensure while mentoring and developing our young aviation warfighters on the intricacies and processes of this profession that we give them the time and tools to find the balance with family and self we all strive for. This starts with effectively defining expectations, priorities, and intent to your subordinates. We have all seen units where junior soldiers and officers were working overtime to accomplish a mission or task only to be told that they were not getting at the actual problem. This type of ineffective communication robs our soldiers of the one thing we can't get more of: time—time they could be using to rebalance their family or themselves.

As I speak to Soldiers that are contemplating retirement, their number one reason for leaving is their family's quality of life. Many stated they were so "All In" or out of balance early in their careers that finding balance now is unattainable; they need to place all their efforts on keeping the family intact. If they could do it again they would try to find some balance earlier. I learned later than most that I needed to treat every career decision as a family decision; this one change made an immediate positive impact on both me and my family.

This profession is a team sport and your family is at its core. I can't think of a more resilient and professional organization. It is an honor to serve with each and every one of you. Now go out and enjoy your holidays, your family, and make some memories. Stay safe and keep our brothers and sisters downrange in your thoughts and prayers.

Above the Best!

CW5 Joseph B. Roland is the chief warrant officer of the Aviation Branch with the U.S. Army Aviation Center of Excellence, Fort Rucker, AL.


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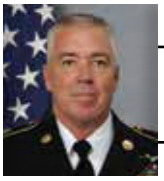

Greetings

By SGM R. Woody Sullivan

U.S. ARMY PHOTO BY SGT STEVEN LOPEZ, 101ST COMBAT AVIATION BRIGADE

U.S. Army AH-64 Apache helicopters assigned to Task Force Eagle Assault land at Camp Dahlke, Afghanistan Oct. 4, 2018.

Greetings from the first sergeant major of the Program Executive Office, Aviation. I am truly honored, humbled and excited to be selected as the first sergeant major of the Program Executive Office, Aviation.

I would like to start by thanking BG Thomas Todd for selecting me for such an outstanding opportunity. The honor and privilege of serving aviation Soldiers is an awesome responsibility under normal circumstances. However, to be able to take on this role as the Army is reorganizing specifically to address getting rapidly changing and maturing technologies into the hands of our Soldiers makes this an even more pivotal period of time to serve.

Since I have arrived at PEO Aviation in June, I have observed a workforce that has a tremendous reputation for commitment and excellence to professionally field complex weapons systems to our Soldiers which is reinforced daily by the efforts of every single Soldier, civilian and support contractor throughout the entire organization.

Our mission at PEO Aviation is to serve Soldiers and our nation by designing, developing, delivering and supporting advanced aviation capabilities for operational commanders and our allies. Our sole function is to provide our Soldiers with the essential aviation capabilities they need to win today, tomorrow, and in the future. We are responsible for equipping our Soldiers with the capabilities they need, when they need them, all the while ensuring we reduce the Soldier's burden.

In the short period of time I've been here, I have focused my efforts in the field where I had the opportunity to visit equipment fielding teams, new equipment training teams (NETT), aircraft modification teams and Soldiers and noncommissioned officers receiving advanced capabilities they need to win on the battlefield. While I'm here, I plan to get that Soldier perspective, receive honest feedback and relay that input to the leadership.

It is exciting and rewarding to watch our Soldiers and NCOs field innovative solutions that meet their immediate needs as warfighters. These innovative solutions increase reach, protection and lethality that provide them the battlefield advantage to win our nation's wars.

Army Aviation continues to be the decisive factor on the battlefield our ground commanders not only demand but rely on. As I get out and meet people throughout the Aviation Enterprise, it is enlightening to see everyone working with the understanding that Aviation is a team sport. Whether you are a Soldier, contractor, civilian or a member of industry, everyone understands that the Soldier is the reason we are here.

Again, I am honored and humbled to work with such an outstanding organization, comprised of dedicated professionals who play a vital role in providing capability to our Soldiers to deter potential adversaries and rapidly defeat enemies so they can win on the battlefield in the most difficult conditions.

Aviation is "Critical Then, Critical Today, and Critical Tomorrow".

"One Team!"

SGM Woody Sullivan
roy.w.sullivan.mil@mail.mil

SGM R. Woody Sullivan is the sergeant major of the Program Executive Office, Aviation at Redstone Arsenal, AL.

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 2017 National winners were featured in the April/May AAAA Annual Summit issue.

2015 Aviation Soldier of the Year
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SPC Emanuel L. Moore

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

AAPI FILE PHOTO

SPC Emanuel L. Moore's performance as a Radio and Communication Security Repairer (94E) for 1st Battalion, 160th Special Operations Aviation Regiment (Airborne) was nothing short of incredible.

He is the first of two 94E Soldiers who have started cross-training to learn the MOS of 94R, Aircraft Survivability Equipment Repairer which will result in his being deployable in both key specialties. Throughout this intense cross-training process, he also competed and won the U.S. Army Special Operations Command Soldier of the Year competition.

He subsequently competed in the Department of the Army Best Warrior Competition where he placed 3rd out of 13 and was also recognized for having the fastest 12 mile ruck march time out of the 26 competitors and was afforded the opportunity to run the Army 10-miler with the Sergeant Major of the Army.

SPC Moore's knowledge and skills have had a direct, positive impact on the organization and his peers. His dedication to duty and technical capabilities are a force multiplier on the battlefield, and identify him as most deserving of recognition as the 2015 Army Aviation Association of America Soldier of the Year.

Training the Army National Guard (ARNG) Aviation Force – Building Readiness

By BG J. Ray Davis

The new ARNG Aviation Training Strategy is a road map to assist units from brigade headquarters down to company level to improve and sustain readiness.

The ARNG Aviation Training Strategy cross walks individual to collective training tasks providing a building block approach, which fosters an increase in individual and collective training readiness overtime for ARNG aviation units. This training strategy serves as a template that ARNG combat aviation brigades (CABs), expeditionary CABs (ECABs), theater aviation brigades (TAB), task forces and subordinate units can utilize for building overall unit readiness while cycling through preparatory training years and entering the availability year (AY) within a Sustainable Readiness Model (SRM). Although some of the training tasks and events may vary slightly between units, the approach to developing readiness through a systematic training regimen remains the same.

Modifying the Template

The ARNG, in coordination with the United States Army Aviation Center of Excellence (USAACE), tailored its aviation training strategy from the Army's overarching aviation training strategy but varies slightly to account for the Reserve Component mobilization to dwell ratio. The ARNG Aviation Training Strategy template identifies collective training tasks and or events for each prepare year (PY) culminating in a collective training event in PY 4; e.g., warfighter exercise, combat training center rotation. The training strategy prescribes a 9.0 flying hours per crewmember each month to execute readiness level progressions and to achieve and sustain Training Level 3 (platoon) / 2 (company) readiness. The training strategy in addition to identifying the training tasks identifies the number of training days per PY with increases in training days in PY 3 and 4 to support the additional collective training.

The foundation for aviation units are the crewmembers that operate the aircraft along with soldiers that operate critical systems such as the Warfighter Information Network-Tactical, the Tactical Terminal Control System and unmanned aircraft systems. Placing qualified soldiers either in the aircraft, supporting the aircraft or other unit mission functions such as air traffic services in PY 1 facilitates implementation of the training strategy. Individual training is the key cornerstone in the execution of the training strategy. The Structure Management Decision Review process allows the ARNG Aviation Staff, in coordination with Headquarters Department of the Army and USAACE, to program all officer, warrant officer and enlisted individual aviation training qualifications to support SRM objectives.

Annual R3

Overlaying and supportive of the training strategy is the annual Readiness Resource Review (R3) for PY1 units. The ARNG's Aviation Staff facilitates the R3 convening review in which the leadership from CAB / ECAB / TAB headquarters and other aviation units can coordinate with representatives from aligned formations and determine best approaches for meeting the training strategy milestones. The R3 allows the organizations to outline not only the training but the resources needed to successfully enter the future PYs and AY.

The ARNG Aviation Training Strategy requires a predictive and consistent funding stream throughout the SRM. Similar to the Regular Army's Aviation Training Strategy, the ARNG Aviation Training Strategy provides a coherent itemization of programmed training events and requirements that allow for developing budgeting and funding resources necessary for training strategy execution. Along with the funding for training resources the ARNG Aviation Training Strategy necessitates adjustments in full time support specifically targeted for aviation maintenance and priorities for replacement parts in all the Army supply systems.

The ARNG Aviation Training Strategy's detailed design provides ARNG aviation units from brigade to company level a road map to follow with regard to individual and collective tasks from PY 1 to the AY. Following the roadmap trajectory will increase exponentially the likelihood for a successful mobilization and deployment. Discussions are ongoing with the States to finalize certain aspects of the training strategy and way ahead to gain comprehensive concurrence and a path to full implementation.

The Army will continue to depend on the Reserve Component now and in the future. Reforming current aviation training programs to a more effective, funded, standardized and operationally focused training strategy will produce well trained aviation units Available and Ready to support the Army when called.

BG J. Ray Davis is the Assistant Director Army National Guard for Aviation and Safety located in Arlington, VA.

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The Importance of Platoon Leaders Serving as Air Mission Commander

By COL Christopher W. Waters

Based on observations during recent rotations at the National Training Center, it is noteworthy and concerning that warrant officers rather than commissioned officers are serving as the air mission commander (AMC) during the majority of missions.

U.S. AIR NATIONAL GUARD PHOTO BY MSGT. MATT HECHT

U.S. Army CPT Robert Manchester, right, a UH-60L Black Hawk pilot with the New Jersey National Guard's Detachment 2, Charlie Company, 1-171st General Support Aviation Battalion, conducts a briefing with his crew after the first mission of the day during medical evacuation training on Joint Base McGuire-Dix-Lakehurst, N.J., Nov. 14, 2018.

In accordance with Army Training Publication 3-04.1, Aviation Tactical Employment, the AMC is the commander or designated representative of the supporting aviation unit, yet it seems that utilizing a warrant officer has become the rule rather than the exception. As young officers move through their career progression without gaining training and experience as an AMC, they fail to obtain the proficiency and expertise necessary to lead flight formations during planning and execution, and to fully grasp their responsibility to develop and employ tactical capability as they become company and battalion commanders. We cannot expect our green tab platoon leaders, company commanders, and battalion commanders to build and deliver combat capability and understand and mitigate risk without the experience and expertise of directing and leading tactical missions.

It seems obvious, but our platoon leaders and company commanders – who own the aircraft, mission, and risk – must appreciate their direct and inherent responsibility for mission success and accountability for risk and hazards during mission planning and execution with every operation involving their Soldiers and equipment. It appears this fundamental responsibility was lost on junior leaders during recent mishaps: The platoon leader or company commander seemed distracted by crew duties or individual progression, or otherwise abdicated leadership and decision-making for directing the flight to a warrant officer. The very best way to instill responsibility for risk mitigation and mission success is to place our junior leaders in formal leader positions during the mission, as pilots in command in the cockpit and as AMCs for the flight.

Train the Trainer

Training Circular 3-04.11, Commander's Aviation Training and Standardization Program, details how commanders will reduce risk. It is evident that just as battalion/squadron commanders are the primary trainers for company commanders and AMCs, so it is that company commanders are the primary trainers for their unit AMCs.

From an operational risk management standpoint, if platoon leaders and company commanders are not gaining experience as AMCs, they will lack the ability to maintain shared understanding of all the hazards associated with tactical employment, and therefore may not incorporate effective risk mitigation during planning or proactively make effective risk decisions during execution. Units must establish deliberate AMC training programs to train platoon leaders as proficient flight com-

manders who can lead from the front and make proper risk decisions.

AMC Training Program

Tough, realistic AMC training programs are critical pathways to success to ensure our junior leaders become effective company commanders. Per TC 3-04.11, the training program is an identified and annotated task on DA Form 7122. These 6000 series tasks are designed to train aviation leaders to assume the responsibilities of making critical risk decisions throughout mission planning and during mission execution.

Commanders should understand the AMC designation goes hand in hand with actual hands-on mission experience. TC 3-04.11 states, "The AMC is selected to lead an assigned mission based on the appropriate level of aviation proficiency, experience, and leadership." So as commanders build their training programs, they also must ensure their junior commissioned officers are directly involved as formal leaders during flight operations. An obvious and effective tool during AMC training is to place an experienced warrant officer with the commissioned officer in the cockpit, and likewise, proficient company commanders should fly with and mentor platoon leaders as often as possible during training.

Conclusion

Platoon leaders and commanders are responsible for delivering combat capability, which they build through effective training plans based on their directed mission and mission essential tasks. The AMC training program is a critical component of formal tactical leader development. Just as it is important that our junior leaders become pilots in command so they can effectively lead and fight their individual aircraft, it is also important that they develop proficiency and expertise leading and directing the employment of the entire capability they are responsible to deliver, including active risk recognition and proactive risk decision-making. These steps will guarantee competent leaders and commanders at echelon that can lead and fight in the complex environments that decisive action large scale combat operations demand.

Readiness Through Safety!

COL Christopher W. Waters is the deputy commander of the Combat Readiness Center at Fort Rucker, AL, and the Acting Director of Army Safety.

To remain relevant to the operational force, 128AB must ensure its courseware and training devices are current with the field and all courses instruct the skills and knowledge Soldiers require to contribute to the unit's mission upon arrival to their first operational unit of assignment. "Above the Best!"
COL Zampelli, Commander

Maintenance Training Relevance

By SFC Oscar Lopez

Is the training I am receiving relevant in today's operational Army? This question always crosses the mind of Soldiers during formal training, and it is regularly discussed at the 128th Aviation Brigade (AB).

This article will briefly detail the processes used in training development, that assist the 128AB to maintain relevancy in the constantly evolving world of Army Aviation and the mission of the United States Army.

Current (the same configuration as the fielded aircraft) and relevant training (supports how maintenance is conducted in the field) is the objective of 128AB maintenance training. The acquisition of a new system, an update to an existing system, or input from the Operational Force can trigger additional training, or modifications to existing training. The process in which developers look at current training, determine what future training needs will be, and identify how we fill that void is called Gap Analysis.

Skills/Knowledge/Critical Tasks

What does all of this mean, and how does this affect the Soldiers being sent to FORSCOM and their operational units? The focus of instruction during initial entry training at Fort Eustis is skills, knowledge, and critical tasks. We teach Soldiers the basic skills required to become an aviation mechanic such as tool and hardware identification, safety wire removal and installation, aircraft and component identification, operation of maintenance management systems, and operation of the Aviation Ground Power Unit (AGPU), to name a few. These skills are common tasks that Soldiers will be expected to know upon arrival to their first duty station. In conjunction with developing aviation maintenance skills that all maintainers need to possess, we also develop fundamental knowledge specific to the Soldier's occupational specialty. Knowledge topics include understanding schematic diagrams, understanding electrical systems, knowing the components of the power generation system, and understanding the differences between battle damage assessment and repairs (BDAR) and standard repairs. These topics represent only a small stream of the firehose our Soldiers drink from during their initial training.

The brigade uses critical tasks to assist in training the skills and knowledge Soldiers require upon arrival to their first operational assignment. The basic selection criteria for these critical tasks are the difficulty of a task, the importance of a task, and the frequency in which a task will be performed. Training developers determine how best to train critical tasks to both amplify skills and knowledge, and ensure Soldiers have demonstrated proficiency with performing tasks from their respective aircraft technical manual. Using TRADOC guidance contained in TRADOC PAM 525-8-2, these tasks are analyzed to determine the best media to instruct the training. Media includes classroom computer-based Interactive Multimedia Instruction (IMI), Virtual Interactive Environments (VIE), and training devices that replicate a real aircraft. The development of the training tasks is accomplished in concert with the assigned material developer, to determine how best to execute the training. Material products are developed/updated, tested for effectiveness, then integrated in the respective MOS and skill level curriculum.

128TH AVN BDE PHOTO BY CPT SEAN DWYER

15N avionics students on the UH-60M Black Hawk Avionics Trainer (BHAT-M) troubleshooting a fault during a practical exercise.

Finally, the team develops a course that enables a Soldier to acquire the fundamental skills and knowledge to maintain the aircraft and equipment in the combat aviation brigades. The process is repeated any time there is an aircraft configuration change, we receive input from the operational force(s), or as directed by command guidance. In conjunction with the operational force, our mission is to provide our Aviation Maintainers with the most relevant and highest quality training possible.

SFC Oscar Lopez is a 15K Aircraft Components Repair Supervisor. He is currently the NCOIC for the 128th Aviation Brigade Systems Integration Department. SFC Lopez has 14 years of aviation experience and has deployed three times in his career, twice to Afghanistan and once to Iraq.

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Structural Airworthiness of JMR-TD & FVL

By Ms. Kit Fry and Ms. Becca Loper

The U.S. Army and Navy are collaborating with industry in the Joint Multi-Role Technology Demonstrator (JMR-TD) Air Vehicle Demonstration Program. The U.S. Army Aviation Development Directorate (ADD) acts as the government project manager for four JMR-TDs.

Two were selected for flight test: the Bell V-280 Valor and the Sikorsky-Boeing S-100 Defiant.

The Aviation Engineering Directorate (AED) monitors both teams' airworthiness verification processes and has opportunities to voice concerns throughout the project lifecycle. Contrary to the Army's normal airworthiness process, the airworthiness risk onus for these activities resides with the individual companies. Both of these teams' processes leverage significant engineering effort to generate an airworthiness determination. When a tech fellow questions a decision, the engineering integrated product teams (IPTs) jump to justify or adjust to an airworthy condition.

For both of these demonstrators, the original equipment manufacturers (OEM) verify airworthiness through a Federal Aviation Administration (FAA) experimental ticket for a 200-hour flight demonstration. An FAA experimental ticket allows the OEMs the freedom to trade among risk, schedule, cost and performance. Both OEMs chose to commit to a high reliability (low risk) target and allowing flexibility in program execution by trading among schedule, cost, and performance. On one hand, the JMR-TD OEMs could perform few qualification tests, incurring a high probability of lengthy schedule delays while learning difficult lessons during flight test execution. On the other hand, they could validate via ground test to near full fielding airworthiness qualification prior to first flight, incurring large developmental costs. Bell and Sikorsky-Boeing recognized that a critical mass of airworthiness testing and reliance on existing de-

signs significantly increases the chance of a smooth, safe, and affordable flight test. Despite the freedom given the OEMs to test as little or as much as they wish they recognized that the first flight sweet spot is somewhere just short of full qualification. In this manner, the OEMs incur minimal risk while leveraging laboratory tests to learn those often-difficult engineering lessons and allowing the non-advocacy review board to authorize maximum flight test capability.

How is JMR-TD able to get to first flight relatively quickly? The JMR-TDs still target a high reliability and require ground testing, but are able to be more programmatically forgiving if laboratory tests fail. Some of these test results lead to redesign, but the OEMs have the flexibility to trade between redesign, a reduced flight test envelope, or a high component replacement rate. They have thus far demonstrated commitment to their target reliability for 200 flight hours. Further, the JMR-TDs more often sacrifice flight envelope or component replacement over redesign. Unfortunately, it is not advisable for Future Vertical Lift (FVL) or any fielded system to sacrifice flight envelope or significantly increase the component replacement rate. Army programs have firm availability, maintainability, and supportability considerations that JMR-TDs do not share. It is in the Army's best interest to plan to operate the aircraft aggressively within the full aerodynamic envelope at high reliability and low sustainment cost for the next 20-50 years.

ADD initiated an increased investment program to engage the JMR-TDs further specifically regarding airworthiness structural integrity. Both JMR-TD programs are in the midst of exercises using the newly developed Rotorcraft Structural Integrity Program (RSIP), MIL-STD-3063. It is the intention of this increased investment exercise to cultivate a better understanding of the RSIP MIL-STD-3063 and inform future revisions. This standard sets the bar for defining and validating structural integrity requirements for U.S. Army rotorcraft. It will support structural integrity whatever the Army decides to target for reliability, availability, and cost, but seeks to clarify how to get there for new design and modification programs. We hope its adoption by Army Aviation will clarify structural integrity and help the Army team generate the airworthiness determinations needed by every Army program.

The JMR-TD program has been an eye opening experience that continues to inspire through the technical expertise exhibited by the engineering IPTs and the decades of expertise demonstrated by the technical fellows advising those IPTs. It is thrilling to see the quality of engineering analysis and tests performed on new design aircraft and imagine how OEMs worked our currently fielded programs decades ago. We are grateful to have the opportunity to support technical airworthiness for both JMR-TDs. We thoroughly enjoy their wealth of engineering experience and learning those surprising and difficult engineering lessons right there along with them. By allowing us to embed with the OEMs, the Army unlocks the fundamental understanding of the aircraft that will significantly benefit airworthiness determination for FVL.

Kit Fry and Becca Loper are Aviation Engineering Directorate structural engineers supporting the JMR-TD team in the Structures & Materials Division of the U.S. Army Aviation and Missile Research, Development, and Engineering Center at Redstone Arsenal, AL.

Acne Treatments

By MAJ Joseph J. Pavelites, MD, PhD, MPH and
MAJ John J. Venezia, DO, MPH

Q: I am a 22 year-old pilot student and I am still getting bad acne flare-ups. I am thinking about going to a dermatologist to get stronger medications than I can get over the counter. Do I have to get a waiver?

FS: Acne (aka acne vulgaris) is a skin condition that occurs when your hair follicles become plugged with oil and dead skin cells. This trapped debris causes whiteheads, blackheads and pimples. Lesions usually appear on the face, forehead, chest, upper back and shoulders. Acne is most common among teenagers, though it can affect other age groups. For example, many adult women can have acne that persists for decades, with flare ups being common a week before menstruation. Other risk factors for developing acne are a family history of parents with acne, the use of certain medications (check with your aeromedical provider for a list) as well as friction and pressure on the skin. Prolonged skin contact with cellphones, helmets, tight collars and rucksacks may rub and irritate your skin, promoting more oil production and pore plugging.

Misconceptions

There are several misconceptions about acne. First, acne ***is not infectious*** and you are not at risk of giving the condition to someone else. Stress is often mentioned as causing acne, though it is more closely related to worsening of the condition. Also, no single food (like chocolate) has been shown to cause acne. However, there is evidence that an overabundance of simple sugars in the diet may exacerbate acne while a healthy diet of lean proteins, fruits, vegetables and nuts may actually help prevent acne flares. Also, greasy foods have not been shown to promote acne. Though, working in greasy areas such as in a kitchen with fryers can make matters worse by obstructing your pores. Another misconception is that ***poor hygiene*** is a contributing factor to acne. This belief often leads individuals to take up aggressive washing routines with harsh cleansers that irritate the skin and further inflame lesions. In general, wash no more than twice a day using gentle, fragrance free cleansers and avoid picking and squeezing pustules. If you use makeup and lotions, be certain to use products that are non-comedogenic (not pore clogging).

If the proper use of over the counter treatments is not resolving your acne, contact your aeromedical provider. Uncomplicated cases may be addressed in a straight-forward fashion at the primary care level without the need for a referral to a dermatologist. First line treatment for acne generally consists of medication that you apply directly to your skin. Females may also be candidates for treatment by oral contraceptives to adjust hormone levels that are contributing to flares. Be sure to follow your provider's directions as the simultaneous use of two or more topical medications may require applications at separate times of the day to avoid mutual inactivation. Also, bear in mind that your acne may initially worsen with treatment and that it may take a couple months for progress to become evident.

Your flight surgeon may determine that a dermatologist is necessary to properly address the problem. This referral may occur if scarring is involved, the diagnosis is uncertain, or patients are failing to respond to trials of first-line medications. The dermatologist may recommend oral antibiotics or oral isotretinoin. A common oral antibiotic used as an acne treatment is doxycycline. You may have already taken doxycycline during deployment and noticed an improvement in your skin's appearance. Of special note, not all oral medications for severe acne are considered waiverable. Please contact your aeromedical provider for a list of medications that can and cannot be waived.

Unfortunately, acne lesions can sometimes be severely inflamed and infected with bacteria that cause numerous painful, pus-filled lumps underneath the skin known as cystic acne. Though most acne is mild and does not need to be considered for a waiver, the pain of cystic acne can be distracting in flight and impair your ability to comfortably and safely wear ALSE gear. In addition, cystic acne can scar the skin and cause emotional distress. Severe, active cystic acne is disqualifying for aviation service and is not usually given an exception to policy for initial applicants. Rated aviators are typically granted waivers, provided that the flyer is not restricted from routine use of mask or helmet and approved medications are used for treatment.

Fortunately, most acne can be taken care of by flight safe medications prescribed by your aeromedical provider and by modifying your health habits. Though cystic acne and its treatments have the possibility of grounding you, do not hesitate to seek treatment to put you on the path to healthier skin. Remember, the earlier you start treatment, the lower your risk of long term problems such as scarring.

Questions?

If you have a question you would like addressed, email it to *AskFS@quad-a.org;* we'll try to address it in the future. See your unit flight surgeon for your personal health issues. The views and opinions offered are those of the author and researchers and should not be construed as an official Department of the Army position unless otherwise stated.

MAJ (Dr.) Pavelites and MAJ (Dr.) Venezia are Aeromedical Specialist Physicians and Senior Flight Surgeons at the United States Army School of Aviation Medicine (USASAM) at Ft. Rucker, AL.

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EAA Tools – Providing Special Tools Solutions for Army Aviation

By Mr. Ed Elsner

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The Main Rotor Hub Spindle Puller (P/N: SP-60-AA) prevents removal damage to liners, pitch horns, and spindle lugs caused by attempting to remove a stuck spindle.

Since the Global War on Terrorism, U.S. Army rotorcraft maintenance has increased its logistical footprint significantly. The Army has had nearly two decades to build up hangar facilities, contract maintenance, tool rooms, machine shops and thousands of lines of prescribed load list (PLL) and bench-stocked parts. However, when task force size elements break off, special tools can be left with maintenance support facilities. Waiting on a special tool to make a repair to an aircraft reduces availability of blade hours to the ground command. Instead, blade hours are used to fly special tools to and from areas of operation or maintainers make do with what they have, increasing the risk of further damage to components. To counteract that risk, EAA Tools developed the philosophy to create and build individual special tools that provide a solution to chronic, existing maintenance challenges. We also wanted to ensure the tools were engineered to be a superior, easy to use, durable, dependable, efficient and effective product for the H-60/S-70 platform.

CDR & SP Tools Lead the Way

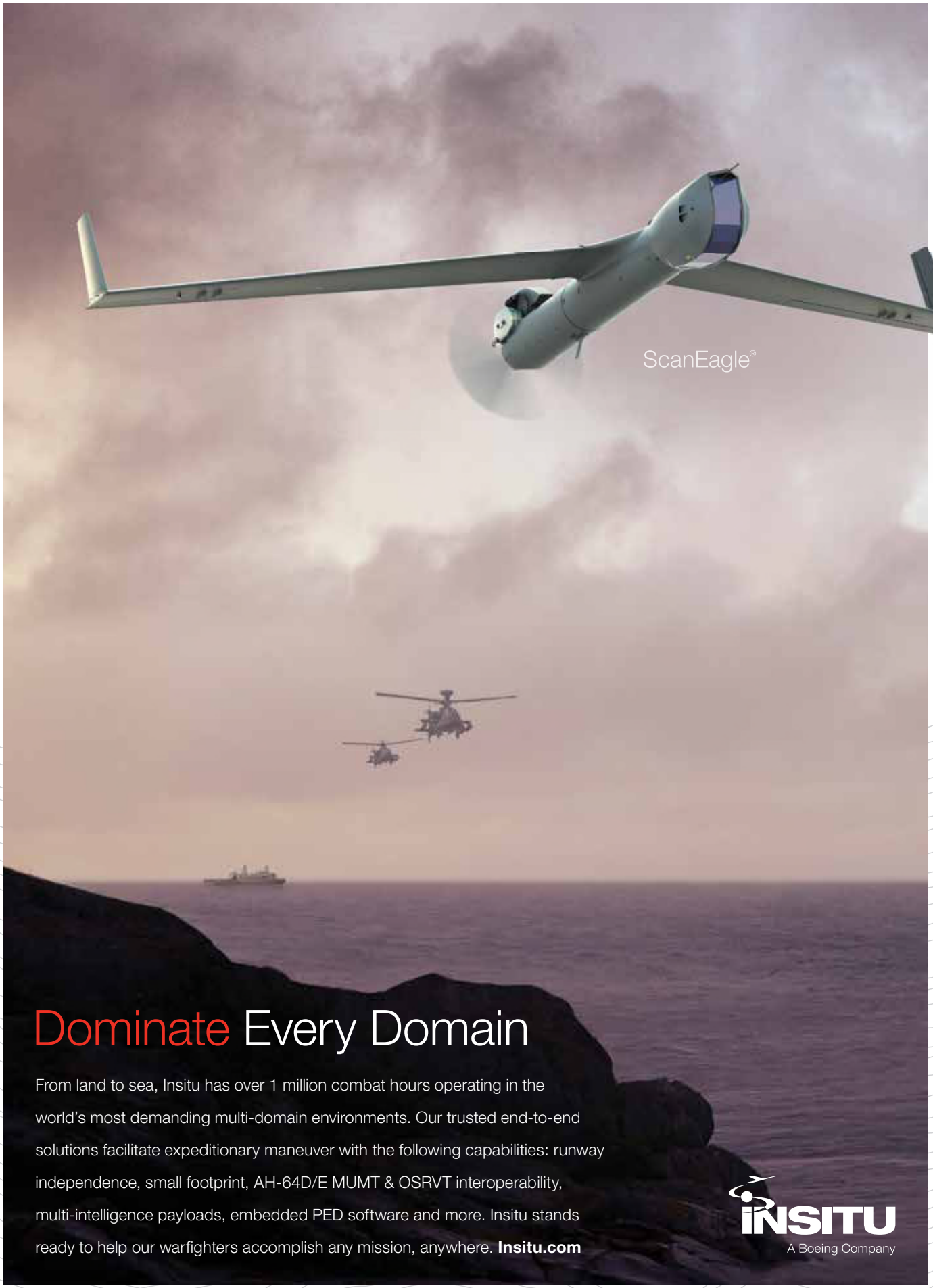
The first individual tools designed by EAA Tools, were the Main Sump Transmission Chip Detector Removal Tool (P/N: CDR-60-AA) and the Main Rotor Hub Spindle Puller (P/N: SP-60-AA). These two tools were designed specifically to resolve two critical and chronic maintenance issues persisting on the H-60/S-70 platforms. The CDR tool was invented to provide a tool that would prevent damage to the main module chip detector and transmission sump components due to the use of improper tools such as pliers or "Channel Locks". The Technical Manual (TM) does not call out the use of any specific removal method and without a safe, proper tool to remove the chip detector, damage is occurring to those components. Furthermore, Cautionary XMSN chip lights usually happen during aircraft operations away from home station and there is an increased mission risk by not having the correct tool on the aircraft. When the CDR was originally submitted to Army Aviation and Missile Command (AMCOM), they expressed interest in issuing the tool as a flyaway kit item for the UH-60.

Historically, main rotor spindles tend to get stuck in hubs, resulting in damage to components that may result in replacing an entire hub or spindle assembly. The TM procedure for removing the Main Rotor Spindle actually calls for the use of a 2x4 as a "special tool" to remove the Main Rotor Spindle Assembly. The EAA Tools Spindle Puller was created to prevent removal damage to liners, pitch horns, and spindle lugs caused by attempting to remove a stuck spindle. The Spindle Removal Tool also eliminates the need to resort to crude prying, striking, or the use of slide hammers, and eliminates the risk of inadvertently dropping the spindle on the aircraft during removal. The Spindle Puller has a current Letter of Use from the Aviation Engineering Directorate (AED) and is awaiting the issuance of a National Stock Number. We believe that this tool should be called out in the TM as the only special tool required to remove UH-60 main rotor spindle assemblies and issued to all maintenance facilities.

Basic and plus heavy maintenance kits. Phase Maintenance Inspection I & II

Comprehensive Maintenance Tool Kits

Demand on the open market for the two initial tool creations inspired EAA to examine, design and build several other critical tools within similar scope.



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The initial strategy was to gain approval from AMCOM for fielding, as the tools were never intended for maintainers and crewmembers to purchase on their own. While this is still our primary focus, Department of Defense (DoD)/U. S. Government (USG), contractors, as well as civilian agencies and operators have continued to purchase individual tools. They have also pressed EAA Tools into creating a comprehensive maintenance tool kit.

The challenge remains to find ways of ensuring these unique tools reach the hands of the end-user. Obtaining accurate analytics via maintenance reliability engineering data-mining (Failure Reporting, Analysis, and Corrective Action System (FRACAS) to prove cost-benefit-analyses and solid business cases for fielding these tools, is another challenge. This is mainly due to the lack of access to the maintenance data. So, the alternative is to build a tool based on historical need. Regardless, EAA Tools is experiencing significant end-user, grass-roots, acceptance and demand for the tools we are providing continues to rise. We are doing our very best to get the word out on the availability and advantages of our tools to resolve maintenance issues.

As we have progressed, EAA Tools has taken its individual unique tools and compiled them into two H-60/S-70 comprehensive and complete tool kits. The kits are designed and packaged in an easily deployable configuration, using rugged military grade containers and dense pack MIL-SPEC foam with shadowed off-set colors for ease of inventory and (Foreign Object Damage/Debris) FOD prevention. The kits are light and durable enough to self-deploy in any austere environment. We also hand-selected the essential commercial off the shelf (COTS) tools from premium, quality manufacturers such as Snap-On, McNally, and others. EAA Tools examined and re-engineered specific legacy tools already in use and improved them using our engineering standards. We also included all our individual proprietary tools. All of these tool compositions make up the kit.

Our new H-60/S-70 Complete Tool Kits (P/N: COMP-60-AA) does not replace the legacy A-92 tool set, but allows for a lighter, more mobile, special tool set, in order to support the ever-changing deployment scenarios. The complete tool kit was made not only for DoD service branches, but for most after-market commercial and Foreign Military Sales (FMS) operators that have found it difficult to obtain most special H-60 tools.

Some of the items EAA Tools used in the kit are derived from the locally manufactured tools in the H-60 Work Packages and common COTS tools that are not found in a general mechanic's tool box. The goal is to provide a well thought-out kit that provided special tools for vast majority common issues maintainers regularly experience on the H-60/S-70 platforms. We took great care to ensure exacting quality not just from our original designs but also from the included COTS tools that meet our standards. EAA Tools takes from its own personal experience and incorporates feedback from Army tool rooms that have been built up from 40 years of trial and error, availability of machine shops on major installations, and decades of input from experienced mechanics to create the kit inventory. These kits were designed so anyone can do 90+% of any maintenance tasks of a Phase Maintenance Inspection (PMI) I or II and most heavy unscheduled maintenance tasks. EAA Tools has, from the start, focused on quality, and has listened to the needs of the customer during the tooling development. Tools previously generated by the Original Equipment Manufacturer (OEM) were typically designed to, at best, meet maintenance needs but little else. They were void of forethought from detailed form, fit, and function maintenance ergonomics, mechanical advantages available, and most importantly, the direct feedback from the end-user on what is exactly needed to perform the maintenance task. EAA Tools took 45 years of UH-60 Black Hawk legacy tooling, invented, innovated, re-engineered, and replaced them with modern solutions.

Our goal is to continue to improve, innovate, and invent new solutions to the continued ever-present maintenance challenges for not only the H-60/S-70, but the CH-47, AH-64, and commercial platforms. If the opportunity presents itself, we have the capability to develop new tools for other military aircraft, such as F-35 and V-22, for examples. We will continue to listen to our customers, and will continue to expand our tools based on the needs of the end-user.

Mr. Ed Elsner is the owner of EAA Tools, L.L.C. based in Phoenix, AZ.

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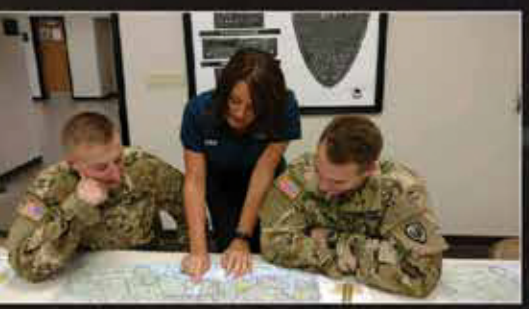

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Unitech Composites Enables Weaponization of the Venerable UH-60 Black Hawk

By Mr. Dan Kinney

A Sikorsky S-70 Black Hawk, here armed with air-to-surface rockets and a Hellfire air-to-surface missile, is transformed from a civil utility machine to a battlefield warrior with Unitech Composite's LASS.

UNITECH COMPOSITES
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The Black Hawk helicopter is one of the most recognized fixtures in Army aviation. In fact, Sikorsky, a Lockheed Martin company, recently celebrated the Black Hawk's 40th anniversary since it was first delivered to the U.S. Army back on October 31, 1978. Now, more than 4,000 Black Hawk aircraft of all types are in service today, and the U.S. Army is the largest operator with over 2,100 aircraft. Civilian versions and some military versions are produced under various S-70 model designations. One thing is clear, for an aircraft to be around for 40 years, it must remain relevant for the men and women who serve with and are supported by this aircraft every day.

Over the last four decades, Black Hawks have steadfastly flown in and out of countless combat zones. The U.S. military has primarily relied on this workhorse to transport troops and provide needed supplies to the war fighter. However, an increasingly important role of some UH-60s is to support assault missions to deliver and extract solders in combat zones, save lives in casualty evacuation missions, and now even strike targets in Iraq, Afghanistan and other conflict areas. Unitech Composites is proud to support these expanded missions by enabling a weapons capability that is available for Black Hawk operators around the world. Unitech's lightweight composite weapons pylons help transform the Black Hawk into a true multi-role aircraft.

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Evolution of Today's Weaponized Black Hawk

The variety of Black Hawk configurations and missions they support is extensive. One that is starting to take hold now involves "weaponizing" a UH-60 with an assortment of sensors and armaments. Fortunately, the needed airframe was already established, and in production at Sikorsky.

Part way through the production of the UH-60A "alpha" models, Sikorsky added hardpoints to the fuselage, so customers could add stub "wings" to carry extra fuel tanks. The initial stub wing system was referred to as the External Stores Support System (ESSS), which entered service in 1986. Each ESSS has two pylons on each wing so a set of wings can carry up to four fuel ferry tanks, each capable of holding 230 gallons. Eventually the Army replaced the original tanks with 200-gallon Crashworthy External Fuel System (CEFS) tanks.

Once the hardpoints and wings were added to the helicopter to carry fuel tanks, it didn't take long before users decided they wanted to carry weapons instead of fuel on the wings. The result was a UH-60 Black Hawk variant with integrated weapons which gave it additional mission capability to use it as a gunship in support of the ground forces tactical commander. Instead of carrying nine combat-equipped troops in an air assault configuration, the new variant was equipped with an array of weaponry so that it could perform armed escort and close air support missions along with a crew of four (pilot, copilot and two crew chiefs/door gunners).

Initially the armed Black Hawks utilized the ESSS wings, but they were heavy and obstructed the field of fire for the door guns. Next, the ESSS wings were shortened to create the External Fuel System (EFS) wings which had a single weapons store per side. Eventually the initial customer migrated away from primarily metallic wings to composite wings. Today those Black Hawk helicopters are equipped with either Lightweight Armament Support Structure (LASS) wings which have one weapons store per side, or the larger Multi-station Lightweight Armament Support Structure (MLASS) wings, which have two weapons stores per side. Unitech Composites is the design authority for these lightweight wings, which followed their Composite Universal Weapons Pylon (CUWP) for the OH-58D Kiowa Warrior.

Options for Weaponized Black Hawk

The composite LASS and MLASS wings are robust and can carry 700 lbs. per weapons station. The list of weapons that have been flown on LASS and/or MLASS wings include:

- M134 Minigun – 7.62mm x 51mm NATO ammunition – six-barrel machine gun – mounted in the gunner's window in a fixed forward-facing fitment
- M230 Cannon – 30mm chain gun – 1,100 rounds @ 625 rounds per minute – the same gun used on the AH-64 Apache attack helicopter
- M261 / M260 / LWL-12 Rocket Launchers – 19/7/12-round 2.75-inch (70mm) Folding-Fin Aerial Rockets (FFAR) – Typically unguided (Hydra 70) or guided (APKWS)
- M299 Missile Launcher – Each capable of holding four AGM-114 Hellfire missiles
- GAU 19/A – .50 Cal 3-barreled Gatling gun – Can be podded or unpodded
- AIM-92 ATAS (air-to-air Stinger)

A set of fully configured LASS wings weighs 294 lbs. without weapons, compared to EFS wings which are 452 lbs.

A set of fully configured MLASS wings weigh 540 lbs., compared to ESSS wings which weigh 730 lbs. The weight savings enabled by LASS and MLASS composite wings is significant and enables operators greater flexibility. Mission planners now have the option of carrying more JP-8 fuel or more firepower.

In addition to the variety of weaponry that can be incorporated into an armed Black Hawk, operators can also integrate more sophisticated electronics such as laser rangefinder/designator targeting systems or a monocular head-up display (MONOHUD) which provides weapon aiming cues for the pilots. For customers who want to carry extra fuel, Robertson Fuel Systems offers several Internal Auxiliary Fuel Tank System (IAFTS) options. Most common are either a single tank that holds close to 200 gallons or dual tanks that hold roughly 170 gallons each. An added benefit of internal auxiliary tanks versus installed on wings is the aircraft has reduced drag and better weight and center of gravity (CG) characteristics.

Increased Availability of Weaponized Black Hawks

Currently, the U.S., Colombia and UAE are the only ones who own UH-60s equipped with wings, or weapons pylons. However, Unitech Composites recently announced that it received an initial contract for LASS wings for the Afghan UH-60 Black Hawk program, managed by the Utility Helicopter Project Office (UHPO).

The Foreign Military Sales (FMS) office within the UHPO now has an option for customers who want to arm their Black Hawks. Older UH-60L and even UH-60A models with hardpoints can also be converted to armed aircraft in relatively quick order. Several integrators already have weapon Stores Management Systems (SMS) kits available.

For a country with a small defense budget, an armed Black Hawk is a very cost-effective solution if one wanted close air support capability without having to sustain a dedicated platform. The Black Hawk is already well known for its versatility, and now with a weaponized configuration, it truly is one of the best examples of a multi-role aircraft.

Summary

The Black Hawk helicopter is celebrating its 40th anniversary, and in 2019 Unitech Composites will celebrate the same milestone. Unitech is honored to be a part of the Army aviation community, where for years we have supplied structural and nonstructural composite components and assemblies to leading Original Equipment Manufacturers (OEMs), such Boeing, Lockheed Martin, and MD Helicopters. However, it is our composite weapons pylons that we are most excited about today.

Unitech's LASS and MLASS products enable the UH-60 to become a true multi-role aircraft that can operate as a traditional medium-lift utility helicopter or it can be configured to support air assault and attack missions. A weaponized Black Hawk is an ideal platform for customers who must rely on fewer aircraft and smaller budgets. Unitech's lightweight weapons pylons have supported warfighters in the air and on the ground for more than a decade, and we look forward to bringing similar capabilities to even more customers around the world.

Mr. Dan Kinney is the senior director for business development and programs at Unitech Composites, based in Hayden, Idaho. Unitech Composites is a Unitech Aerospace company.

UH-60V Console

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Strata-G Solutions, Inc. - Delivering Superior Aviation Products and Solutions in a Soldier-Focused Small Business Company

By Beth and Devin Whitaker

From the beginning of the 20th century with man's first powered airplane executing controlled and sustained flight, Army aviators have played a key role in shaping our Army warfighting capabilities, doctrine and battlefield tactics. Today, Army Aviation's focus hinges on Mission Readiness by manning, equipping, training and sustaining the current and future Aviation force to meet today's global commitments. The Honorable Mark T. Esper, 23rd Secretary of the Army stated, "People are the Army's greatest asset." This fact remains a viable driving force of the military and industry partnerships that provide our Soldiers the assets to succeed. Small businesses play a key and vital role in meeting the Army's objectives.

Since our inception 14 years ago, Strata-G Solutions, Inc., with headquarters and primary operations in Huntsville, Alabama, was formed with the vision to rapidly provide soldiers and Army Aviation with the highest quality aviation-centric engineering, hardware and integrated solutions required for their mission success. Strata-G's workforce perform a multitude of critical design engineering, prototyping, additive and traditional manufacturing, fabrication & kitting, integration and aircraft modification tasks to support Army Aviation's role in executing multiple global requirements and eliminating threats. Our woman-owned/minority owned small business delivers on our founding vision of fearless integrity, customer-focused superior solutions and a Soldier-focused mind-set.

Strata-G – Soldier-Focused Rapid Response Culture

Owning and operating a successful small business supporting our American warfighter is a very rewarding experience, yet, opportunities and challenges present themselves daily. As Strata-G's owners, we have learned that opportunities many times come disguised as tough executive decisions. Small business executives must make informed, strategic decisions if success is desired. During our early years, Strata-G executive decisions led to a key focus on executing Army Aviation rotary wing and fixed wing aircraft modification and technology insertion programs that resulted in the rapid fielding of enhanced warfighting capabilities. These programs, across multiple Army Aviation platforms, laid the groundwork for our current technical and hardware solutions Soldier-focused culture.

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modifications. A cornerstone program in Strata-G's history remains our key role in rapidly engineering, prototyping, qualifying and delivering the Iraqi Armed 407 (IA-407) aircraft and initial technical data package in a true rapid response quick-reaction environment. As a member of the small business industry team, Strata-G was engaged in the collaborative effort with the U.S. Army Program Executive Office (PEO) Aviation, the Aviation and Missile Research Development and Engineering Center (AMRDEC) Prototype Integration Facility (PIF), many other Government agencies and various industry participants executing the IA-407 program. The IA-407 program was unique due to the collaborative effort required between multiple Government and industry entities to take a commercial-off-the-shelf (COTS) rotary wing platform, the Bell 407, and deliver a total aircraft reconfiguration military variant, all in an unprecedented expedited schedule. This rapid response Army Aviation project established a benchmark for Strata-G's rapid response, quick-reaction culture.

Small Business Challenges Can Drive Success

Most small businesses desire growth and expansion. As businesses grow and expand, executive leadership can sometimes lose sight of their core values, their core capabilities and the dilution of the very culture that has brought past success. Traditional growth is focused predominately on financial aspects; however, controlled strategic growth also encompasses capabilities, facilities, equipment, infrastructure and personnel. Strata-G has undergone many changes, growth, and corporate transformation over the years. However, we have not lost focus on why we exist and our primary mission – the Soldier. We've also learned that challenges are the life-blood required for knowledge growth and continued success. For example, Strata-G's role in the Government and small business industry team developing and qualifying the Black Hawk UH-60V aircraft brings many challenges, but also many Soldier-focused opportunities. The UH-60V will modernize the Army's fleet of UH-60L helicopters through a digital cockpit upgrade. With this upgrade, the Army is replacing the UH-60L analog gauges with digital electronic instrument displays. Overcoming program challenges results in laying the framework for future fielded enhanced warfighting capabilities. As Strata-G's customer base has grown, so has the type and complexity of products and solutions we deliver. Within Strata-G, everyone from the CEO to the janitor is focused on our company's purpose and foundation: Soldier Focused Culture, Technical Excellence, and Delivering High Quality Superior Products.

Strategic Approach and Executive Implementation

There is an old proverb that says, "A vision without a plan is just a dream. A plan without a vision is just drudgery… but a vision with a plan can change the world." This "focus on the future mentality" holds true today and small businesses supporting our warfighters should desire a strategic vision embraced by the executive leadership. Several years ago, Strata-G embarked on a structured strategic approach to evaluate our current state and identify future desired states. A key goal of this initiative remains that (1) future Strata-G capability offerings must remain grounded in aviation technical excellence and (2) our Strata-G executive leadership, workforce and culture remains focused on rapid response solutions to the Soldier. Our strategic process began with analyzing our internal and external strengths, weaknesses, opportunities, and threats (SWOT). This evolutionary process provides Strata-G leadership with unbiased clarity in understanding our current state and the future desired state, and in identifying the strategic initiatives required to elevate the company. This also allowed us to align our Strata-G purpose, culture, values, future state, and decision-making processes.

Data-Informed Executive Decision-Making Drives Results

Strata-G's roots are grounded in aviation centric engineering, prototyping, manufacturing and aircraft integration; therefore, data and metrics play a key role in our decision making. Being "data informed" small business decision makers is key to remaining rapid response and Soldier focused. Executive decision-making drives results. For example, Strata-G desired to expand our existing manufacturing capability, capacity and facility offering. This led to Strata-G's recent acquisition of Huntsville, Alabama, based WestWind Technologies, Inc., resulting in the newly opened Strata-G West Prototype & Manufacturing Facility adjacent to Jetplex Park near Huntsville International Airport. Our new state-of-the-art aviation-focused Strata-G West facility vastly expands our "back-shop" mechanical and electrical manufacturing, painting, cleanroom, welding, integration facilities and our patented Black Hawk UH-60/S-70 External Hoist Army Mission Kit offering. Since inception, Strata-G has been committed to delivering superior quality solutions and quality products to our Soldiers. Strata-G has

The Strata-G Solutions, Inc. team.

reinforced our commitment to superior quality as evident in our achievement of 3rd party certification to AS9110C, AS9110D, ISO 9001:2015 and AR 95-20 DCMA 8210.1 Flight and Ground Operating Procedures (FGOPs).

Strata-G: Committed to the Future

At Strata-G, we have a fundamental belief in the importance of giving back … to our employees, to our military, and to our community. Strata-G employs many veterans and honors those who have sacrificed, and are sacrificing, so much to protect our way of life and our country. We are committed to Army Aviation and our American warfighters. We understand that small businesses play a vital role in achieving our military's mission readiness and combat effectiveness. We prove our understanding and commitment by providing technically superior, highest quality aviation product solutions. At Strata-G, *We are Keeping You Mission Ready*.

Beth Whitaker is the chief executive officer, president and owner and Devin Whitaker is the chief operating officer and owner of Strata-G Solutions, Inc. based in Huntsville, AL.

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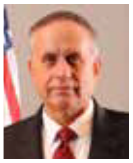

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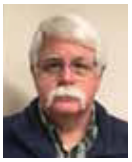

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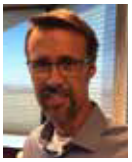

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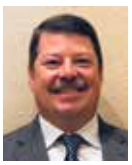

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Powering the Future:

The Aviation Turbine Engines Project Office Update

By COL Roger D. Kuykendall

UH-60 engine bay is opened to view the T700-GE-701D at Redstone Arsenal.

U.S. ARMY PM ATE PHOTO

Army Aviation aircraft possess some of the most sophisticated weaponry and avionics ever made, and the heart pulsing power in the Apache AH-64, Black Hawk UH-60, and Chinook CH-47 helicopters are engines overseen by the Aviation Turbine Engines Project Office (ATE PO) within PEO Aviation. ATE PO manages the Improved Turbine Engine Product Office, led by LTC Travis Harris and the T700/T55 Product Office, led by Mrs. Kimberly Baker. Since the formation of ATE PO on 1 February 2018, we have provided centralized management of the Army's rotary wing turbine engine capability by designing, developing, delivering, and supporting turbine engines for the U.S. military and coalition partners.

The Improved Turbine Engine Product Office (ITE PO)

Since the 1970s, the Army has added enhanced protective equipment to the Apache and Black Hawk helicopters to thwart determined and ever changing adversaries. The additional equipment has provided more protection to Soldiers and the aircraft, but the added weight from the equipment has impacted the lift, range, and maneuverability of these helicopters in operational areas where high-altitude and high-temperature flights are often required. The Improved Turbine Engine Program (ITEP) will recover these lost capabilities to support future multi-domain operations.

The Improved Turbine Engine (ITE) is a 3,000 SHP class engine of a similar weight that fits within the Apache and Black Hawk engine bays and replaces the current T700 engine. The program will address performance capability gaps and restore lost capabilities due to airframe growth by providing:

- Significant fuel savings for the Black Hawk and Apache
- Significant power enhancement for the Black Hawk and Apache
- World-wide performance to meet operational requirements (6K/950)
- Modular design that enables field level repair
- Lower operational & sustainment costs

To establish a foundation for a successful engine-platform integration, the ATE PO, in coordination with the Utility Helicopters and Attack Helicopter Project Offices, leveraged lessons learned from previous U.S. Army engine integration efforts incorporating Full Authority Digital Engine Control (FADEC) systems. Three of these programs were the MH-60M with the YT706 FADEC engine, UH-60M Upgrade with the T700-701E FADEC engine, and the UK Apache with the RTM-322 FADEC engine. Furthermore, the ATE PO included both aircraft original equipment manufacturers, Sikorsky and Boeing, in the integration analysis and design during the ITE Preliminary Design efforts and completed engine fit-checks with mock-up model engines in the current engine bays.

ITEP utilizes a Modular Open Systems Approach (MOSA), where feasible, to incorporate an architecture that supports early integration, optimizes total system performance, and minimizes total ownership costs. The ITEP MOSA is multi-faceted to reduce engine integration and sustainment costs, control schedule risks, and enable opportunities for future upgrades. This approach integrates business and technical strategies that employ modular hardware and software design, leverages data rights, employs Government defined interfaces using consensus-based standards, and makes architectural decisions based on life-cycle objectives for maintenance and sustainment.

Today, the program is currently in Source Selection to down select from two vendors, the Advanced Turbine Engine Company and General Electric Aviation, to enter into the Engineering and Manufacturing Development (EMD) Phase. The Preliminary Engine Designs are complete, and the technology is assessed ready for program initiation. Milestone B is scheduled for 30 JAN 19 followed by EMD contract award. When the ITE is fielded on the Apache and Black Hawk fleets, it will provide the increased power, performance, and range necessary to dominate future battlefields in support of military operations.

The T700/T55 Product Office

ATE PO's responsibility encompasses the management and improvement of both the present and future powerhouses of Army Aviation. Our T700/T500 Product Office manages several current engine programs utilized by Army Aviation and fellow Department of Defense branches.

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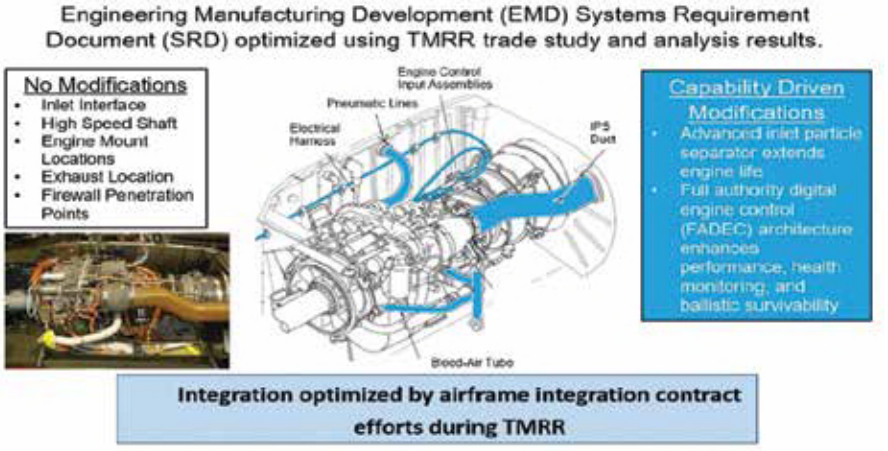
The T700-GE-701D turbine engine is the power plant for the United States (U.S.) Army Black Hawk and Apache Fleets. The T700/T55 Product Office is currently leading development programs updating the Enhanced Digital Engine Control Unit (EDECU) for both increased reliability and obsolescence avoidance. The improved reliability efforts are focused on increased margin capacitors on the power board along with redesigned inter-board flexible connectors. The obsolescence effort is focused on key components of the CPU board within the EDECU to avoid projected production interruption dates in approximately 2021. It is also leading an effort to update the Critical Safety Item (CSI) program on the T700 series engines modernizing the engineering compliance documentation.

The T55-GA-714A turbine engine is the power plant for the United States Army Chinook Fleet. The T700/T55 Product Office is developing, testing, qualifying, and implementing several improvements for the T55 Hydro-Mechanical Assembly (HMA) fuel control unit under the T55 Component Improvement Program (CIP) based on historical information and analysis. These improvements include material changes to the Metering Head Regulator (MHR) and Compressor Discharge Pressure (CDP) Spring and Pin in order to improve wear resistance; geometrical changes to the potentiometer linkage to eliminate hysteresis; chamfer added to the housing to reduce cut seals during installation/assembly; material changes for seals to improve sealing capability; and implementation of a Non-Contact Position Sensor (NCPS) in place of potentiometers to eliminate the possibility of wear spots on the fuel flow position potentiometers. Once they complete the current qualification stage, each of these enhancements will revitalize the T55-GA-714A for better reliability, added safety, and increased durability. The final flight testing is to be completed by December 2018 and fielded by the summer of 2019.



Preparation for the Future

ATE PO is taking steps to modernize the future Combat Aviation Brigade by integrating new technologies to yield enhanced reach, reliability, and lethality. ITEP, a top aviation modernization priority, will modernize the current Black Hawk and Apache platforms while offering growth potential to accommodate potential Future Vertical Lift platforms. In addition to ITEP, the fielded T700 and T55 engine programs continuously analyze reliability, availability, and maintainability (RAM), safety, and cost to evaluate sustainment and capability improvements that can be implemented through the component improvement programs.

Planning for the future not only involves the continued improvement of existing engines, but also discovering and understanding new propulsion architectures and technologies. Industry innovation, both commercially and militarily driven, plays a key role in this as it bolsters Army capabilities and presents many opportunities to be leveraged. An example of this is the growing interest in utilizing hybrid/electric power in Aviation. Renewable power would lessen dependence on fossil fuels and may create new opportunities for enhancing current capabilities. ATE PO intends to continue to assess these opportunities and means to leverage them into Army Aviation. Success lies in our ability to design, develop, deliver, and support advanced aviation capabilities to the Soldier and units today and in the future.

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

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Achieving Tactical Advantage By Doing What We Have Never Done Before

By Mr. Shawn Gresham

Dominance in an increasingly complex operational environment, against current and future adversaries, requires our aircrews to intentionally train and conduct combat operations in flight conditions with near zero visibility resulting in reduced situational awareness. Environment exploitation is a critical capability to increase the aircrew's situational awareness, achieve supremacy, and preserve an asymmetric advantage over our enemies. In the future, combatant commanders (COCOM) will gain a tactical advantage through the aircrew's ability to exploit the environment. This increased capability to safely conduct flight operations in degraded visual environments (DVE) will allow Army Aviation to project lethality and maintain battlefield dominance in ways that were not possible in the past.

Mission

The DVE Product Office mission is to design, develop, deliver, and support DVE capabilities for Army Aviation. To achieve our mission, the DVE PO vision is to equip Army Aviation with evolving modular DVE solutions that provide a tactical advantage, while increasing survivability. We are committed to delivering solutions that will provide our aircrews the best technology to fight, win, and safely operate in degraded visual environments.

Current Challenges Are Future Operational Advantages

DVE is defined as, "an environment of reduced visibility of potentially varying degree, wherein situational awareness and aircraft control cannot be maintained as comprehensively as they are in normal visual meteorological conditions (VMC) and can potentially be lost." A DVE occurs from natural and manmade atmospheric conditions or the effects of an aircraft induced state, resulting in reduced visibility. Operations conducted in DVE can result in the aircrew's reduced or loss of situational awareness. Night is considered a "DVE Multiplier" that further limits visibility and intensifies the effects of visual obscurants creating a deadly combination. Aircrews frequently encounter unforecasted or rapidly deteriorating weather conditions, operate at night in zero illumination under an overcast ceiling in sparsely populated areas or over water, and perform maneuvers that induce whiteout and brownout conditions. These adverse conditions often diminish visibility and result in cancelled or aborted missions. Although our Warfighters have established combat proven tactics, techniques, and procedures to mitigate the risks associated with DVE, a significant threat remains to both our aircrews and our ability to dictate when and how we conduct decisive action across the range of military operations and the conflict continuum.

Environment Exploitation Today, Tomorrow, and in the Future

In May 2017, the U.S. Army Deputy Chief of Staff, G-8 approved a Directed Requirement (DR) to procure and field DVE systems. The DR leverages a COCOM DVE materiel solution for integration and fielding on fifteen HH-60M medical evacuation (MEDEVAC) Black Hawk helicopters by 2020. Implementation of the DR addresses an immediate DVE brownout capability gap and addresses critical needs identified by the MEDEVAC community. The COCOM DVE materiel solution currently undergoing testing consists of two sensors: an infrared camera and a laser imaging detection and ranging system. Outputs from both sensors will be fused using a synthetic vision avionics backbone and presented to the aircrew via existing panel mounted displays as an aid to situational awareness.

In parallel with the DR, our near term strategy is to explore technologies and advise the synchronization of sensors, symbology/cueing and flight controls to optimize capability and inform decisions regarding utilization on Future Vertical Lift (FVL) and the current fleet. We will leverage science and technology (S&T) investments from the DVE-Mitigation program, the Night Vision and Electronic Sensors Directorate, as well as other Services to inform and establish a foundational environment exploitation capability with current applications and future technology. The near term goal is to explore emerging opportunities to provide aircrews with additional situational awareness for obstacle and hazard detection in multiple environments, and increase operational effectiveness while lowering mission execution risk.

Future environment exploitation solutions will expand the envelope to include common symbology/cueing, multi-use sensors, data fusion and advanced flight control systems to enable supervised autonomy. Realization of this new capability expands beyond Program Executive Office (PEO) Aviation and efforts are underway to synchronize programs across multiple PEOs. To facilitate communications between the various organizations, PEO Aviation established the DVE Executive Steering Committee (ESC) to oversee five DVE integrated product teams (IPT). The ESC mission is to establish an enterprise approach to provide DVE capabilities for the current fleet and FVL. The DVE IPTs include sensors, symbology/cueing, flight controls, architecture, and semi-autonomous flight. These DVE IPTs include members from TRADOC Capability Managers, PEO Intelligence, Electronic Warfare, and Sensors, PEO Soldier and the various S&T offices. The desired end state is to deliver a fully qualified pilotage system that exponentially increases multi-ship combat capability and enables aircrews to safely operate with precision and confidence, regardless of the environment.

Environment exploitation is a revolutionary leap forward for Army Aviation providing our aircrews an overmatched capability to support global operations in all weather conditions and against threats encountered on future battlefields. Just as night vision goggle technology allows Army Aviation to own the night, environment exploitation will allow us to own the environment enabling Army Aviation to conduct operations as we have never done before.

Mr. Shawn Gresham is the product manager for the Degraded Visual Environment Product Office, Aviation Systems Project Office, Program Executive Office, Aviation, Redstone Arsenal, AL.

Future Vertical Lift Cross Functional Team Update

By BG Walter (Wally) T. Rugen and
COL Andrew W. Batten

The Army must optimize its aviation force to fight and win a large scale combat operation against any peer or near peer competitor, all in accordance with the 2018 National Defense Strategy. Throughout our history, Army Aviation always provided an asymmetric advantage to the ground force in any fight, and this proud legacy must continue in any future fight. We must commit ourselves to renewing our dominance in lethality, reach (speed, range and endurance), and survivability for future battlefields that are projected to be far more contested, degraded, and lethal. Optimization of our future force is paramount to gaining the overmatch necessary to defeat the enemy and diminish their anti-access/area denial (A2AD) capability. Success will result from simultaneous action across all domains that overwhelms the threat with unrelenting and mutually supporting action. Army Aviation must therefore possess the capabilities provided by Future Vertical Lift systems to breach a threat umbrella, swiftly aggregate and advance, maintain sufficient station time to exploit the breach, and dominate.

Innovation is key to securing the necessary overmatch; innovation in technology, doctrine, and procurement. GEN John Murray, commander of Army Futures Command, recently stated that Secretary of Defense Robert McNamara developed the acquisition system in the 1950s and, since then, the process continues to add layers of regulations intended to reduce acquisition risk. The result is a bureaucratic latency that suppresses innovation, delays fielding of cutting-edge technologies and moderates the strategic military advantage the United States has enjoyed since World War II. The United States increasingly finds itself challenged in all domains. The 2018 National Defense Strategy identifies that peer and near-peer adversaries clearly wish to reshape the world, determined to bend other nations' will to fit their world view. In his 2018 budget submission, Defense Secretary Jim Mattis states in unfettered language that a "return to great power competition, marked by a resurgent and more aggressive Russian Federation and a rising, more confident, and assertive China, places the international order under assault."

FVL CFT LOEs

Recognizing that modernization of key capabilities is critical to securing U.S. supremacy into the future, Army Futures Command was activated in August 2018 charged with exploiting technological opportunities while maximizing efficiency from limited resources. Among Army Chief of Staff, GEN Mark Milley's top six priorities for modernization is the Future Vertical Lift (FVL) Program lead by a cross functional team (CFT) at Redstone Arsenal, AL. The FVL CFT is charged with developing four lines of effort within an accelerated acquisition timeline to include, 1) Future Attack Reconnaissance Aircraft (FARA); 2) Future Unmanned Aircraft Systems (FUAS) including Advanced Unmanned Aircraft Systems (AUAS) and Air Launched Effects (ALE); 3) Future Long Range Assault Aircraft (FLRAA); and 4) Modular Open Systems Architecture (MOSA). Robust integration of FVL across air and ground systems is paramount in maintaining U.S. overmatch increasingly threatened by the propagation of advanced threat Integrated Air Defense Systems (IADS), Long Range Precision Fires (LRPF), and unconventional electronic and cyber capabilities. In contrast to the incremental gains achieved within our aircraft modernization programs over the last three decades, FVL CFT is tasked with identifying leap-ahead technologies that will optimize our kill chains on the future battlefield.


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Threat capability is driving FVL requirements. Peer and near-peer adversaries are improving integrated missile systems, such as the SA-22 Pantsir, to increase areas of anti-access. The tactical and strategic implications for Army Aviation are profound. Threat systems mandate our formations adjust techniques, tactics, and procedures to account for our adversaries' LRPF. Staging and logistics support areas must be concerned with the threat systems' growing reach. Future systems must possess the capability to target and degrade or destroy the enemy's A2AD systems, enabling the joint force's freedom of maneuver and action. Aviation must be prepared to compete, penetrate, disrupt, exploit, and re-compete.

Multiple aerial systems will be borne from FVL. Advanced unmanned- and manned- aircraft teams will attack to kill or suppress threat radar with conventional and unconventional weapons while feeding targeting data to other friendly systems. Employing simultaneity, the optionally manned FARA, masking in the radar clutter of urban canyons, operates in concert with AUAS, ALE and ground-maneuver elements to deliver integrated fires effects. Lethal coordination and simultaneous action across the domains creates the necessary penetration that enables FLRAA and other elements to exploit the breach. A key enabler in integrating FVL assets, MOSA will facilitate rapid adoption of new technologies, exceptional autonomy and machine learning, all feeding continuous improvements sustaining overmatch.

Achieved Milestones

While there remains much to be accomplished in advancing the current four FVL CFT lines of effort, significant milestones have already been met, including progress with FARA. ***FARA***, described as the close-combat controller, will possess lethal overmatch, protection, reach and affordability, enabling it to dominate in highly contested battlespace. On Oct. 3, the FVL Team, including the CFT, U.S. Army Aviation and Missile Command, Army Contracting Command, Program Executive Office Aviation, Army Aviation and Missile Research Development and Engineering Center, and other critical partners, kicked off a major FARA prototyping competition with a $1.9 billion Other Transactional Authority Prototype (OTAP) solicitation. This is one of the largest OTAPs in Army history. The solicitation encourages innovative industry solutions with design parameters that include a true mission cruise speed of greater than 180-knots, 250-kilometer combat radius, 40-foot width, and a maximum gross weight of 14,000 pounds. The team anticipates up to ten competitors, allowing the selection of four to six designs in June 2019. In 2020, two designs advance for prototyping with a fly-off in 2023 with a final selection in 2024. This prototype enters an integration and qualification phase with initial production as soon as possible. Utilization of the successful Joint Multirole Technology Demonstration (JMR-TD), a Science & Technology program designed to mitigate FVL program risk through the testing of advanced technologies and efficient configurations, in combination with OTAP and CFT FVL integration efforts, decreased acquisition timelines for FARA by almost six years.

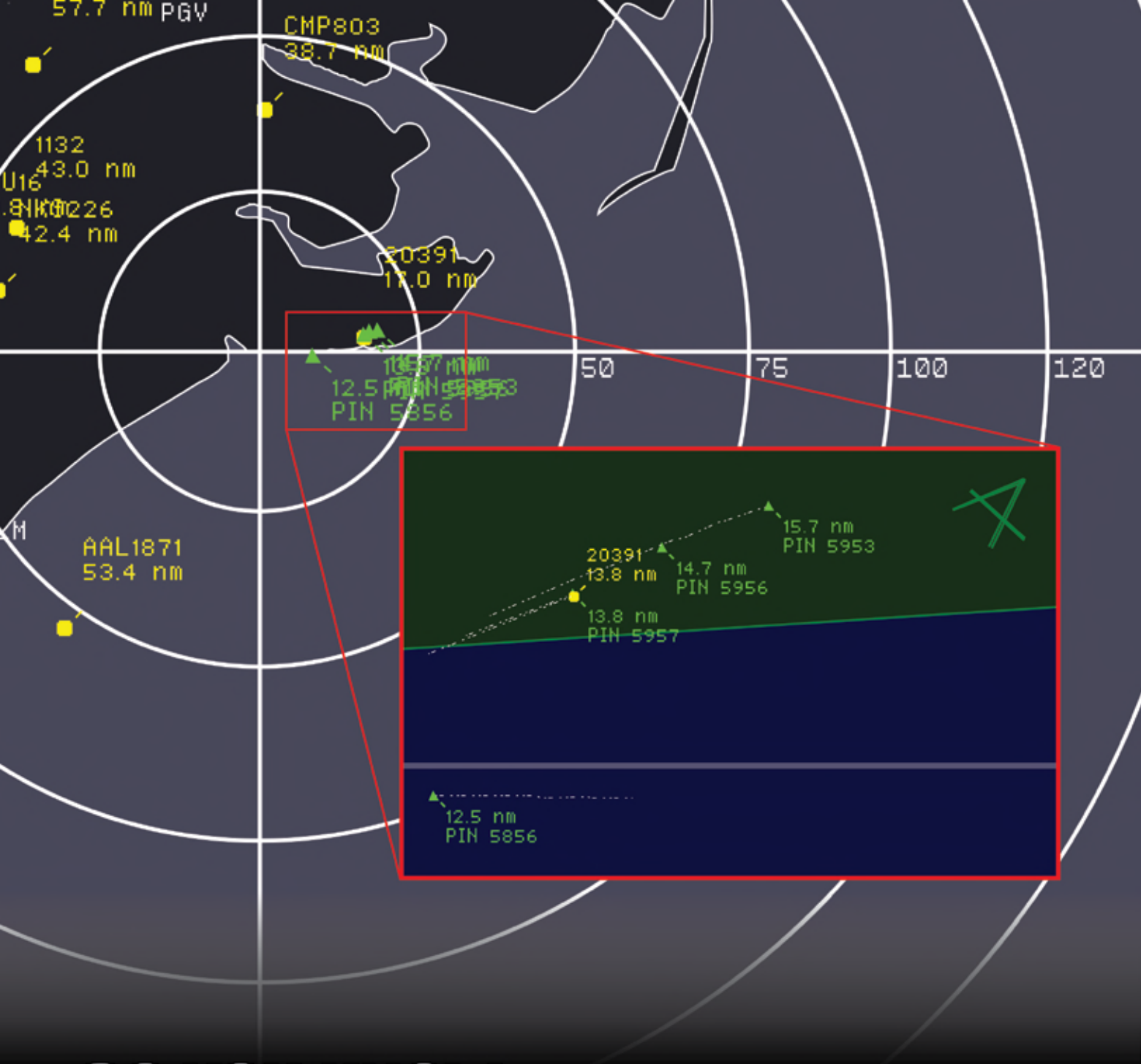
FUAS, including AUAS and ALE, is the next generation UAS family focused on survivability, advanced teaming, and multi-functionality, optimized for the A2AD defeat mission. FVL aircraft teamed with FUAS will penetrate and dominate an area or corridor enabling the joint force to seize, retain, and exploit the initiative. In fewer than six months, FVL CFT established the requirement for a Future Tactical Unmanned Aircraft System (FTUAS), based in-part upon existing Operational Needs Statements. FTUAS must be expeditionary and runway independent with reduced support and sustainment requirements, highly autonomous, and survivable. Request for proposals for a potential Shadow replacement was published in September 2018. This $99 million demonstration will equip six platoons with three new FTUAS systems for testing. The FTUAS effort has cut close to six years from the procurement process. Additionally, a UAS/ALE swarming demonstration is planned for 2019.

FLRAA is the next generation lift, assault, and MEDEVAC aircraft incorporating new technologies, materials, and designs that increase speed, range, payload and survivability. It is intended to replace the Army's workhorse UH-60 fleet currently celebrating four decades of service to the U.S. Army. FLRAA is informed by the JMR-TD as well. Phase one of JMR-TD resulted in selection of four designs--a compound design of coaxial rotors with twin pusher fans offered by AVX Aircraft Company; tiltrotor design by Bell/Lockheed Martin; tiltrotor design by Karem Aircraft; and a compound design with rigid coaxial rotors and pusher prop from Sikorsky-Boeing. In 2013, Phase two resulted in the selection of two designs for prototyping, the Bell-Lockheed V-280 Valor and the Sikorsky-Boeing SB>1 Defiant. All four efforts continue to provide invaluable insight and data important to the validation of potential FVL technologies. While FARA is currently ahead of FLRAA in the acquisition process, the two systems will likely be fielded along similar timelines.

MOSA implementation will provide the connectivity and compatibility crucial to the integration of FVL assets and is supported by the Mission Systems Architecture Demonstration, a component of the JMR-TD. These increasingly complex demonstrations focus on concepts, standards, processes and tools, rather than an objective design for a FVL mission systems architecture. The demonstrations culminate with the 2020 Capstone series of large scale demos of representative FVL architecture designs and components. Capstone will provide the guidance and infrastructure necessary to implement a digital backbone on FVL aircraft that enables efficient integration of capabilities that are affordable, timely, and effective. Various teaming arrangements are being tested to ensure openness, component reusability, integration efficiency, and protection of intellectual property. The first selection is complete and Skayl will be the overarching Capstone demo architect. The next team members, the Joint Common Architecture Product Developer and four mission systems integrators will be selected shortly.

Army Aviation requires revolutionary advances in maneuverability, agility, lethality, survivability, and sustainment to operate in a highly contested multi-domain battlefield. The Future Vertical Lift Cross Functional Team is taking a "team of teams" approach to leverage innovation and next generation technologies in developing FVL aircraft and systems with the capabilities necessary to guaranteeing U.S. overmatch into the future.

BG Walter (Wally) T. Rugen is the director and COL Andrew W. Batten the deputy chief of staff of the U.S. Army Futures Command Future Vertical Lift Cross Functional Team, located at Redstone Arsenal, AL.



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The Future of Vertical Lift – The Future of Army Aviation

By GEN Richard A. Cody, U.S. Army Retired
and the AAAA National Executive Board Strategic Planning Committee

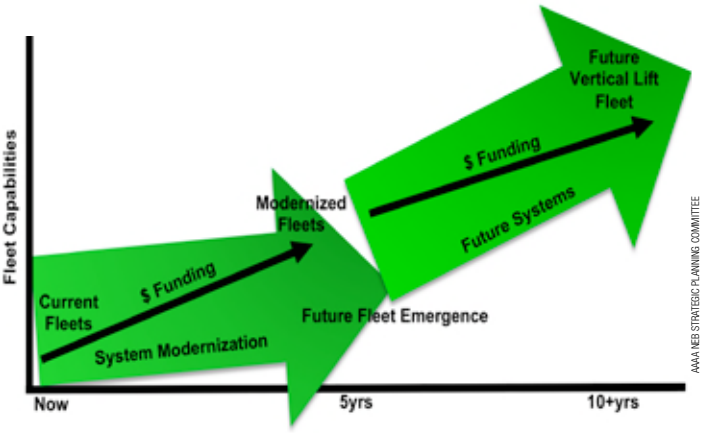

Figure 1: FVL Investments Will Leverage Current Systems Modernization and Deliver More Capabilities for the Investment

Editor's Note: This is the first in a series of articles by the AAAA Strategic Planning Committee designed to stimulate dialogue on present and future issues having an impact on the Army Aviation Enterprise. Your comments are welcome and should be sent to editor@quad-a.org. *Joe Pisano, Editor*

Future Maneuver Operations in Increasingly Challenging Global Environments Demand Revolutionary Change.

Since the first flight of Army Aviation very early in the 20th century, the United States has led the world in the evolution of combat aviation tactical systems to support maneuver commanders of all Services. And since the beginning of the Vietnam War, the U.S. military has experienced an unprecedented explosion and accelerated change in advancing rotary wing platforms and capabilities. The U.S. military and its allies have fielded the most sophisticated and capable aircraft in the world to fulfill their respective needs. However, these tactical aircraft advancements and capabilities -- primarily rotary wing -- are rapidly reaching the zenith of traditional design technology to survive and maneuver in increasingly complex battlespace.

While the United States and its resources were committed globally combating the Taliban, Al Qaeda, ISIS and other extremist organizations, other notable near-peer adversary militaries have steadily improved their combat systems across the entire spectrum. Notable advances are seen in rotary wing, tactical close air support fixed wing and unmanned aircraft, many of which may be fielded into other countries. Foreign integrated air defense systems have also increased acquisition & targeting radars that provide airspace coverage in depth with very long range, medium to high altitude surface to air missiles covering access at extended ranges. Additionally, coupled with powerful Electronic Warfare (EW) and unmanned operations, current and future adversaries can employ ground fires across hundreds of square kilometers.

Finding, targeting, and destroying these systems, regardless of the environmental conditions, terrain, or the extended distances from which operations will be conducted, must be a priority for any future near-peer conflict. Emerging Joint Force Maneuver/Multi-domain operations in highly complex operational environments, as outlined in Army Field Manual 3.0, will demand that Army Aviation be equipped, organized and trained to defeat modernized threat combat systems throughout global operations.

The Requirement

The U.S. Army is prioritizing its modernization efforts to address the critical capability needs to ensure Multi-Domain Maneuver success against all adversaries. Number three of the six Army Modernization Priorities is Future of Vertical Lift (FVL) platforms. The FVL capabilities are often described in terms of five Capability Sets, which describe different key mission sets. Capability Set 1 includes an advanced armed reconnaissance Vertical Take-Off & Landing (VTOL) aircraft. The FVL advanced armed reconnaissance platform will detect, locate, identify, report, share and securely transmit accurate targeting data. Threat forces will certainly deploy advanced capabilities and operate at extensive distances within a dynamic, kinetically lethal and saturated Electronic Warfare (EW) engagement environment. The emerging FVL aircraft must bring significant aircraft and system performance improvements to expand maneuver operations in this environment. The Future Attack Reconnaissance Aircraft's (FARA) resulting extended operational area must ensure aerial attack and reconnaissance overmatch to uncover, identify and precisely target enemy systems for Army and Joint long-range fires.

The Army, as the largest rotary wing force among the Services, has an extraordinary war-fighting need for not only the FARA, but also for the family of Future Vertical Lift aircraft. It is imperative that Army Aviation enters the third decade of the 21st Century with a fleet of new and more powerful VTOL aircraft that bring performance far beyond traditional rotorcraft and tilt-rotor capabilities. With the Army placing FVL among the top three modernization priorities, the Modernization bar for success has been raised and the stage is set for Army funding priorities.

Balanced Modernization Imperative

An incremental approach to modernization, as what has been done with our current fleets, is unlikely to provide our force with the overmatch capabilities required against the broad range of emerging adversary systems. The FARA's new platform, engine and open computing systems design are intended to deliver "leap-ahead" aerial attack and reconnais-

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Total Force Aviation Investment Stratagy

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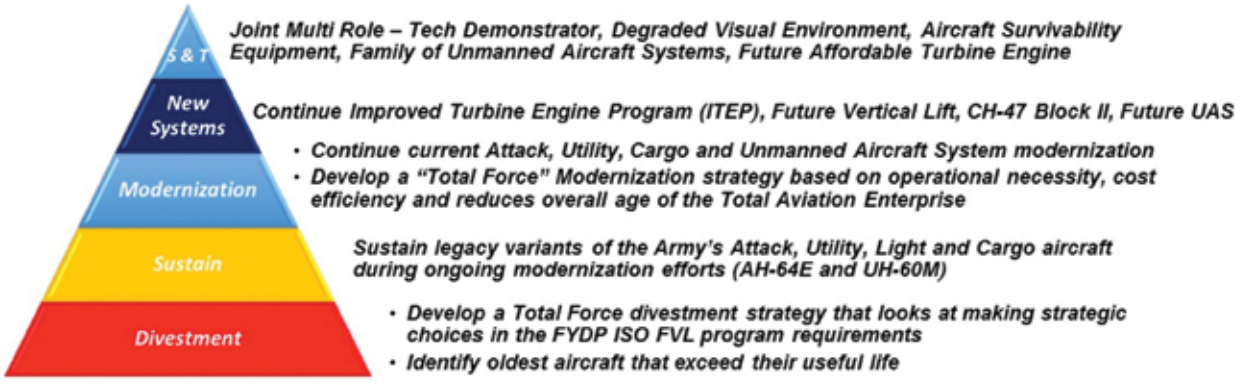

Figure 2. Science & Technology, Modernization and Sustainment Resources Must All be Balanced to Ensure Uninterrupted Combat Capability

sance technologies that are ten-fold greater (5X + 5X=10X) than what exists currently. The "5x" ways to find & "5x" ways to prosecute may or may not be hardware on the FARA, but can be leveraged from other Systems-manned or unmanned. Subtle differences and moderate improvements at great cost to current aircraft capabilities will be replaced by transformational improvements at less comparable cost. Life cycle costs, including sustainment, for those capability improvements will be reduced through digital engineering systems design, component and system–level improved reliability and maintainability, leveraging modernized capabilities across fleets and open systems architectures.

Army Aviation must modernize quickly and wisely as our adversaries are not waiting idly for us to field a future fleet with trained crews ready to fight. Available modernization and sustainment resources must be balanced across the major aviation systems to ensure all fleets remain ready-to-fight with relevant and effective lethality and survivability capabilities into the future. The current fleets continue to deploy and fight in heavy operational tempos; their modernization and recapitalization cannot be ignored or delayed excessively without risking deployable aircraft availability well before FVL replacements are fielded.

Investments in the current fleets and FVL fielding will require a holistic and focused Department of Defense and industry effort. The Army's modernization funding realities in the future are daunting, given the breadth of Army Cross Functional Team (CFT) modernization priorities and requirements. All Army Aviation supporting elements, political, military and industry must remain in synch with messaging and expectations to enhance success. The varied funding priorities of Future Years Defense Program and Army Program Objective Memorandum must be balanced to stabilize new investment and sustain Aviation capability sets across the vertical lift spectrum. Congress should view FVL as a Total Army asset and all elements as a must resource with stable investment.

Army Aviation must field advanced rotary wing and mission system technologies while sustaining legacy capability for the Fight Tonight response. The Army's Aviation modernization budget request in Fiscal Year 2018 was approximately $4.6B. The FY19 President's Budget request was $4.2B. These request levels are likely to remain consistent through the Future Defense Years Plan given the full span of Army modernization priorities. Ensuring the existing fleets remain effective in continued global operational deployments will therefore demand a continued balance of modernization improvement trade-offs, current fleet sustainment and capabilities risk management while the FVL variants bring new capabilities to fully operational status. Those responsible for resourcing cannot consider current Army Aviation fleets as "bill-payers" for the future capability as they were during the Comanche development era.

The less-than-adequate modernization funding for existing fleets, a risk taken to resource the future RAH-66A Comanche helicopter, led to a significant gap in desired deployable combat capability for rapidly growing combat operations in Iraq and Afghanistan. The Comanche was ultimately cancelled to pay for critically-needed improvements to the existing fleets due to increasing operational demands. It then took the Army over 10 years while in combat to buy back critically needed modernization and capability enhancements to support maneuver commanders.

The need and importance for synchronizing FVL acquisition with current / legacy capability modernization over time is highlighted in Figure 4. Current fleets are aging on similar timelines and will require recapitalization and systems upgrades to keep them effective while the FVL fleets are developed and fielded. The anticipated constrained budgets within the next decade must effectively address the needs of the maturing fleets while rapidly fielding the FARA and Future Long Range Assault Aircraft (FLRAA).

The Joint Multi Role (JMR) helicopter program should spawn FVL platforms which are, at their foundational design, more Joint Operations capable than any previous rotary / fixed wing platform. Some of the developed component systems will also be used in current fleet modernization efforts. Component commonality should not only provide leveraged capabilities across the Services, but also set the conditions for manageable operational and maintenance costs within future Service budgets. The FVL as a 'System of Systems', will include core features and systems engineering common to the family of platforms. Each mission platform, in addition to the core features, will bring additional unique attributes - Mission Equipment Packages. The FVL core features provide

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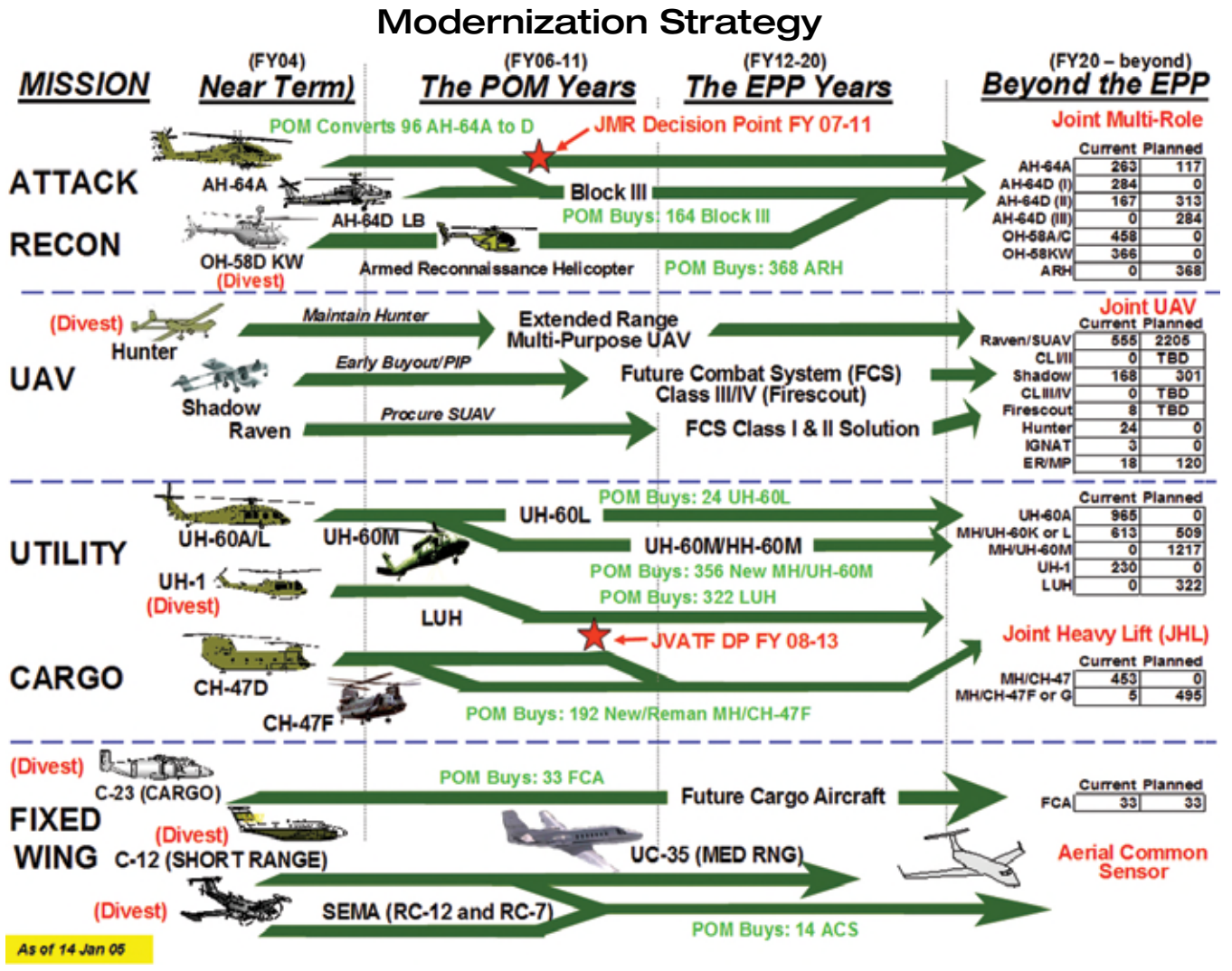

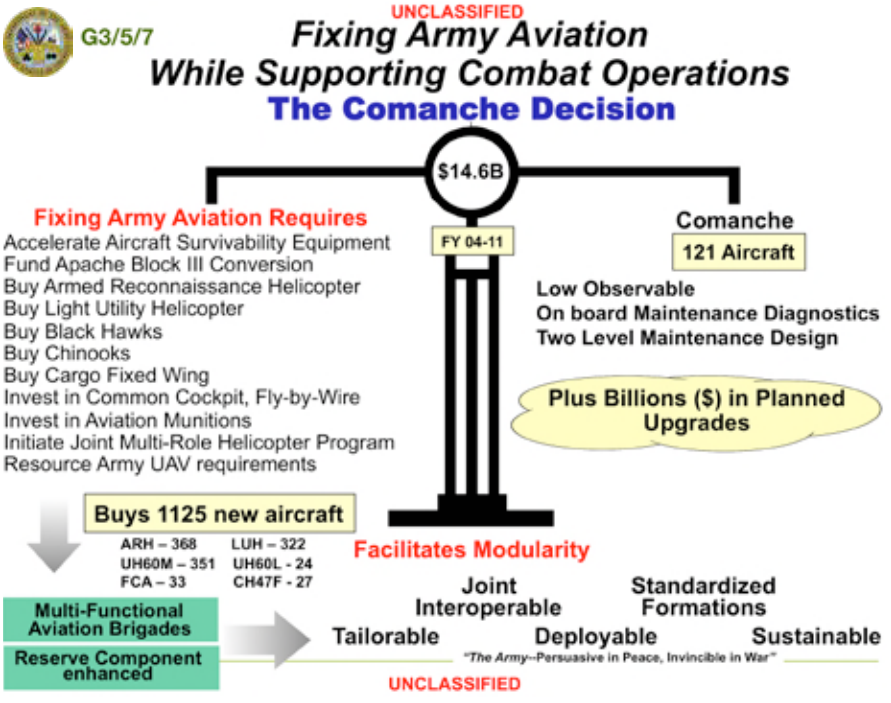

Figure 3. Army Aviation Must Balance Resources to Field Advanced Aircraft with Current Fleet Readiness So as to Not Risk Either

commonality, familiarity and cost efficiencies to make all FVL platforms more affordable and sustainable than their predecessors.

Engines, drivetrains and other components which are designed from their inception to be interchangeable between current and future fleets will facilitate further cost-effective approaches and enable more affordable operational costs. The Improved Turbine Engine Program (ITEP) is an excellent example. The current ITEP investment will notably improve the range, endurance and maintainability of AH-64 and UH-60 fleets. It will also be leveraged for FVL aircraft. It's currently planned for the FARA.

The FLRAA variants (assault, utility, and aeromedical), along with a future medium cargo capability to replace the CH-47F Block II (currently intended to extend the operational effectiveness of the heavily-demanded CH-47F fleet thru mid-century), will provide platform speeds exceeding 200 knots, and

enable range, payload and survivability attributes to support Army and Joint Forces effectively. All FVL variants will include inherent optionally manned performance and Autonomous-Intelligence support systems. These capabilities will allow commanders at the lowest levels of mission command greater flexibility in terms of crew management and employment configurations to operate without pause in support of ground forces engaged in a wide range of threat and weather environments.

Furthermore, the enormous potential payoff from the integration of FVL with Future Tactical Unmanned Aircraft Systems to conduct Advanced Manned-Unmanned Teaming operations must be realized. Consistent and prioritized investment to develop game-changing survivability, autonomy, reliability, and lethality performance enabled by Advanced Manned-Unmanned Teaming will capitalize on this envisioned game-changing capability which has been evolving slowly since the AH-64 and Hunter UAS prototype teaming efforts.

Lastly, Joint interoperable networked communications for air and ground weapons systems have been an Achilles Heel for the Services, but FVL must overcome this challenge if it is to attain the '10X' capabilities required. All FVL platforms will require a communication suite with a joint architecture that is secure, connected and interoperable across all the Services and Allied partners. The avionics must have software programmable frequencies, bands and throughput speeds to support the span of Reconnaissance, Surveillance and Target Acquisition data management, while also providing Global Air Traffic Management capabilities to interoperate with civil authorities in the homeland and abroad within the International Civil Aviation Organization umbrella.

Enduring Sustainment Is Part of the Modernization Plan.

Revolutionary maintenance and sustainment practices coupled with artificial intelligence diagnostics and self-healing systems will provide FVL with greater aircraft operational availability and an ability to support FVL in remote austere locations. Unit level sustainment and maintenance for FVL will be improved through greater component modularity and a more accurate understanding of system potential failures. Precision replacement versus today's component analysis, replace and repair at home construct will minimize FVL platform "down time", improve safety and keep more combat capability available.

FVL unit maintenance is not the only improvement anticipated. Predictive, condition-based aircraft Health Usage Monitoring should also reduce the demand on Operations and Support resources needed for depot-level recapitalization of aging fleets. New, intelligent and adaptive maintenance algorithms will lead the way for proactive, predictive understanding of structural and dynamic components. This knowledge will then facilitate a more streamlined and affordable logistical tail for global operational demands.

Total Force Training and Employment.

The Army is assessing FVL unit organizational design and construct, from crew/platoon through Corps. Future Active and Reserve Component Aviation organizations must be identical to better facilitate a more effective equipping strategy and ensure enduring operational employment availability. Over the past sixteen years of combat, multi-component Aviation Task Force deployments have become the norm, with approximately 84% of our Army Aviation force committed today. As such,

Army Aviation Major Fleet Modernization Perspective

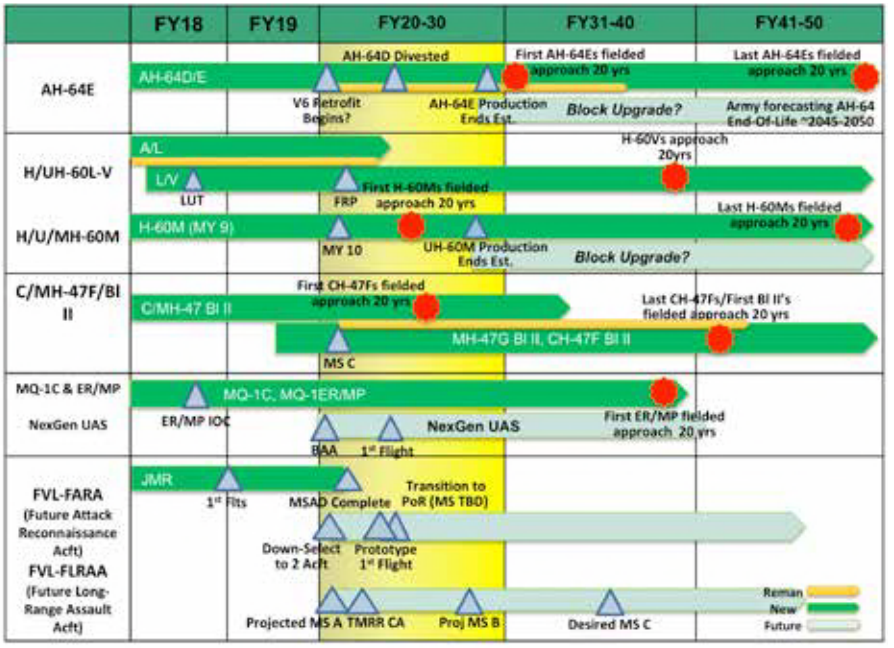

Figure 4. The Current Fleets, with a Lifetime of Continuous Combat Operations, Must Be Kept Modernized While the FVL Equipped Units are Fielded.

the optimum enduring value for Army Aviation is to continue to leverage the Reserve Component by deploying with them early, often, and fully-integrated into multi-domain operations. Reserve Component companies flying side-by-side with Active Army companies are expected to deliver the same expertise and capability to commanders in the field. This expectation can only be realized for sustained combat operations if collective readiness is built in a balanced and concurrent manner between the Active and Reserve Components.

The Active Army relies on the Reserve Component to employ combat aviation forces to meet Combatant Command requirements. Currently, the Army National Guard provides 47% of the aircraft and 51% of the Aviation personnel in the CENTCOM Theater. Assuming this Operational Tempo is an indicator of future operational demands, it will remain essential that the Active and Reserve Components seamlessly and concurrently train, equip and deploy for maneuver unit operations. Leveraging the individual training sites in the Army National Guard will also increase the Army's throughput on qualifying and training Aviators to fly and maintain FVL airframes. Concurrent modernization of all training sites, regardless of component, will dramatically improve our ability to generate more FVL trained pilots and maintainers.

Organizations similarly designed and equipped provide war-fighting agility for Combatant Commanders' war planning and minimize the need for numerous

aircraft specific, team and multi-domain maneuver training curriculums and programs of instruction. Live, virtual and constructive training associated with FVL must enable crews to maximize the platform's operation and employment, regardless of their Component. Training devices and scenarios must also facilitate seamless aircrew advancement from initial aircraft transition mission specific training at both training centers and home station locations.

Army aviation FVL equipped units will need to maximize the emerging Synthetic Training Environment (STE) simulations and synthetic flight trainer capabilities. These FVL synthetic devices and simulations software must not only create near identical aircraft cockpit matching, but also leap forward in enabling mission, task and organization training for future FVL equipped units to vertically maneuver and operate within the multi-domain airspace. The synthetic trainers for FVL units coupled with simulations that effectively replicate supported units can increase FVL operational readiness for active and reserve component - operational readiness which will ensure vertical lift successes in supporting Army and Joint Forces in multi-domain airspace.

FVL may also dawn an evolutionary approach to aviator career management and utilization. Aviators today typically specialize in one mission design series. The future aircraft may allow for less specialization and greater diversification, yielding a more versatile aviator who will operate confidently in multi-domain operations.

The Bottom Line.

The future of Army Aviation and the Future of Vertical Lift depend on a partnership between the Federal Government, Department of Defense and Industry to resource and deliver the revolutionary capabilities required for multi-domain maneuver operations in complex environments.

Army Aviation has a proven track record as a critical warfighting enabler within the conduct of Unified Land Operations. When fielded with the advanced capability that FVL provides, our aviation organizations will be increasingly lethal and perplexing to any near-peer opponent well into the future. As the Army Aviation Branch approaches its 40th Anniversary in 2023, what would be more fitting than to be on the verge of a true paradigm shift in how the Army procures, equips and employs vertical lift and maneuver capability to excel in Multi-Domain Maneuver Operations support for our Army well into the 21st Century!

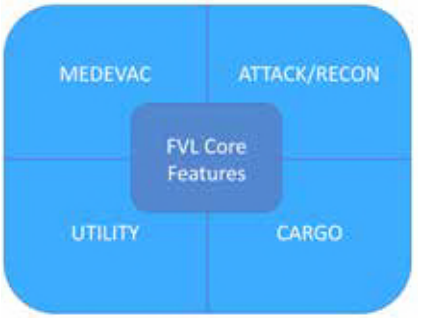

Figure 5. The FVL Leverages Core Systems While Optimizing Mission Equipment

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GEN Richard A. Cody, U.S. Army Retired, was the 31st Vice Chief of Staff of the United States Army. The AAAA National Executive Board Strategic Planning Committee contributors to this article include: MG Walt Davis, USA Ret., Cypress International; COL Bob Godwin, USA Ret. & COL Stephen Burns, USA Ret., Army National Guard, National Guard Bureau; COL Greg Gass, USA Ret., General Electric; and COL Shelley Yarborough, USA Ret., Cypress International.

AAAA **Chapter** Affairs

By LTC (Ret.) Jan Drabczuk

I greatly appreciate the support from MAJ Adam Lulay, Oregon Trail Chapter President, CW5 Paul Zenchenko, Vice President and CSM Jim Brown, Treasurer for co-authoring and sharing this information with our membership.

The Oregon Trail Chapter

"Alis Volat Propriis" (She flies with her own wings) is the state of Oregon's motto. That saying is fitting because the Oregon Trail Chapter (OTC4A) is the only AAAA chapter located in Oregon, one of a handful of states with no "active duty" post within its borders.

Membership and Supported Units

The chapter consists of Soldiers, officers, alumni and friends of the 2-641st Aviation Regiment of the Oregon National Guard. The Battalion's composition is unique to the U.S. Army. It is made up of a CH-47 detachment based out of AASF #2 Pendleton, Oregon (KPDT) and UH-60M MEDEVAC, LUH-72, and C-12 units based out of AASF #1 McNary Field, Salem, Oregon, (KSLE). The Battalion has also absorbed the TUAS platoon with its RQ-7B Shadow UAS which is assigned to Oregon's 41st IBCT. The Battalion is one of the busiest in the National Guard, first deploying to Bosnia in 2000 as a MEDEVAC unit (at that time designated as the 1042nd Air Ambulance Company). Since then, the units of the Battalion have been flying at full speed with over 20 deployments in the last eighteen years and counting.

CHAPTER PHOTO BY 1LT. JESSICA CLARKE, OREGON MILITARY DEPARTMENT

Soldiers and family members of 2nd Bn., 641st Avn. Regt. of the Oregon Army National Guard participate in the third annual movie night held at AASF#1 Salem, OR, June 2, 2018. Family members prepared and decorated their drive-in vehicle, enjoying pizza and drinks and finished with a movie and popcorn.

Chapter Transition from a Rebirth to Flourish

The Oregon Trail chapter was chartered on May 1, 1995 and was relatively active until 2008 when it went into hibernation for a variety of reasons. In August of 2012, there was a change of command and LTC Pete Derouin was "encouraged" by MG Fred Rees to revitalize the OTC4A. Under LTC Derouin's leadership the chapter rebirth momentum started to flourish; membership tripled, and a solid program of activities was established, ranging from bowling and golf tournaments, Texas Hold'em, and a hospitality suite during the State Conference.

CW5 Paul Zenchenko took over in 2014 and was credited for masterminding the annual Fly-In movie night, partnering with the Salem Elks Lodge for OTC4A meetings and other shared community activities. One activity included fundraising to bring #926, an OV-1 Mohawk, purchased by chapter member Gary Clark, back to Oregon. Aircraft #926 was originally stationed at AASF#1 and can be seen in several photos to include an eruption of Mt. St. Helens. The OTC4A and the Elks Lodge were instrumental in funding the transportation cost of #926 from Florida to Oregon with the route following most of the Oregon Trail. OTC4A and the Elks Lodge have raised over $10,000 for the restoration project as it nears completion. Once completed, it will be erected as a static display at the entrance of the AASF#1. CSM Jim Brown, 2-641th Avn. Regt. has been the OTC4A Treasurer since 2014, and has been instrumental in acting as a liaison for the #926 project and several of the OTC4A events.

Since 2016, MAJ Adam Lulay has been leading the Oregon Trail Chapter. His goal has been to adjust the chapter focus toward Soldiers, families, and the future. Adam began a partnership with the Yellow Ribbon and BN's FRG to ensure the OTC4A were present and a source of support. Through his efforts, the chapter started doing quarterly social events and coordinated guest speakers. The chapter also obtained funds for a bounce house for the kids during the battalion Christmas party, reinvented the Fly-In Movie event, funded the MG Raymond F. Rees scholarship, recognized Lifetime AAAA members and emphasized the recognition of quality Aviators with Order of Saint Michael awards.

Summary

It is great to see the new-found enthusiasm inside the Oregon Trail Chapter – great leadership and support. Glad they are part of our 78 AAAA active chapters. Wish them Happy Trails in the future!

Feel free to contact me if you need help for your chapter, Executive Board support, would like your chapter featured in the AAAA magazine or to obtain clarification of National procedures.

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

AAAA Chapter News

Morning Calm Chapter Hosts Annual Aviation Ball

CHAPTER COURTESY PHOTO

On May 25, 2018, the 2nd Combat Aviation Brigade (CAB), 2nd Infantry Division conducted its annual Morning Calm U.S. Army Aviation Ball at the Seoul Grand Hyatt Convention Centre in downtown Seoul, Korea. The guest speaker, Major General D. Scott McKean, the Commanding General, 2nd Infantry Division, Republic of Korea / United States Combined Division (RUCD), was introduced by COL Lance Calvert, the 2nd CAB Brigade Commander and Morning Calm Chapter President. Brig. Gen. Kang, Sun Young presented Republic of Korea's Army Aviation Honorary wings to LTCs Tucker, Schuck, and Woo, MAJ Bottrell, and CW5 Huitron. LTC Hursey, CW4 Fogarty, and SSG(P) Caraway were inducted into the Honorable Order of St. Michael and RADM Bu, Seok Jong (Cdr., ROK Navy 2nd Fleet), BG Kang, and Mr. Song, Mayor of Pyeongtaek, as Knights of the Honorable Order. COL Calvert, BG Thomas R. Drew and MG D. Scott McKean, Deputy Commanding General and Commanding General (respectively), 2nd Inf. Div., and BG Kang cut the cake at the Morning Calm Aviation Ball.

Tennessee Valley Chapter Memorial Golf Scramble

CHAPTER COURTESY PHOTO BY SHANNON KIRKPATRICK

COL Joseph Hoecherl's wife, Kelly, and son, Kevin, accept a check from Program Executive Office for Aviation's Apache helicopters project manager, COL Tal Sheppard, right, at the inaugural COL Joseph A. Hoecherl Scholarship Golf Scramble at Robert Trent Jones golf course in Hampton Cove, AL Sept. 11. Hoecherl, who passed away in May, served as the Apache PM from 2016 to 2018. Twenty-seven teams raised eleven thousand dollars toward the AAAA scholarship fund set up in his memory.

Order of St. Michael Inductee

Narragansett Bay Chapter

CHAPTER PHOTO BY OFFICER CANDIDATE ALEXANDRA CURTIS

LTC (Ret.) David Williamson is inducted into the Bronze Honorable Order of St. Michael by MG Christopher Callahan (left), The Adjutant General of Rhode Island, and chapter president COL Andrew Chevalier, at a recognition ceremony on October 12, 2018 at Joint Forces Headquarters in Cranston, RI. Williamson was recognized for more than 24 years of Army Aviation Service as both a rotary and fixed wing pilot, including service in Vietnam.

AAAA Membership Update

By CW4 Becki Chambers

For this issue, I asked CW4 Brian Fields from the Volunteer Chapter to tell the story about a new AAAA chapter established at McGavock High School in Nashville and why they feel a membership in AAAA is important. *CW4 Becki Chambers*

The Membership Corner – McGavock Raiders Chapter

By CW4 Brian Fields

CHAPTER COURTESY PHOTO

McGavock Raiders Chapter officers pose with a few other members and their new banner: (l to r) Addison McLean, president; Tony Youssef, secretary; RJ Hill, Sr. VP; Jaxson Knowles, Kalista Hawkins and Marcus Webster, Treasurer.

Becki sent me an email asking if I could visit and write about a new AAAA chapter established at McGavock High School in Nashville.

McGavock High School is an academy-based school in the Metro Nashville School District. With 2,700 students, McGavock is the District's largest. Each student completes basic courses their freshman year and then selects one of the four academies going forward, one of which is Aviation and Transportation which is broken down into Flight, Engineering and Diesel Technology. The Flight academy has 138 students and is where the AAAA chapter originated.

Derek Rowe is a retired British Army Air Corps helicopter pilot and teacher for all classes within the academy. Derek has experience in Gazelle, Lynx, Scout and Apache helicopters, including time at the Apache Instructor Pilot Course at Rucker. He was eager to show me around. When I arrived, students were working on a program which detailed the steps involved in the design of airports, including layout and government regulations linked to the establishment of such airports. Behind them was a bank of flight simulators. Not necessarily used to work toward certifications, but students learn procedures and concepts of flying during base level classroom work.

Next, Derek showed me the school's RV-12 kit plane build project. One day a week students meticulously work assembling this plane from the ground up. This isn't cheap – these academies work and collaborate with local industry and colleges. Additionally, they already have arrangements for a local flight school to house the plane in return for 300 hours of flight training for the students assigned to the build program.

How did the school make the connection to AAAA, by a Brit no less? I immediately thought of his time at Ft. Rucker at the Apache IP Course, but the connection came when one of Derek's students approached him about the Army's "high school to flight school" program. Any stand up teacher would make inquiries about the program, which Derek did. During his inquiries, he heard from CW5 Dave Stock who coincidentally would be attending the AAAA convention just a few short miles from McGavock. Dave made a visit, and arranged for Derek and several of his students to attend the 2018 AAAA Summit. The students were in awe of the aircraft and the exhibits, including stints flying the Bell and Sikorsky flight and weapon simulators.

The chapter is completely student led and currently has 13 members. The president and vice president are seniors Addison McLean and RJ Hill, respectively. Why would high school students pursue membership in AAAA? RJ says that when he graduates, he intends to enlist. To him, anything related to the military or military history is of interest and the connection that AAAA has to the military certainly piqued his interest. Addison also sees interest in the military as a viable connection to AAAA. She sees the benefit in networking with AAAA members as a way to determine potential future career paths for her and those students involved in the chapter. Being a member of AAAA expands their exposure to aviation and the military as they seek out a career field. She added that she believes this connection should help solidify interest for many of the underclassmen and future AAAA members.

Much like the McGavock Aviation and Transportation Academy's link to local industry is mutually beneficial, so too is the new link with the McGavock Raider AAAA chapter. Locally, I look forward to sparking collaboration between the Volunteer Chapter and the McGavock Raider Chapter.

CW4 Fields is a C-12 pilot in Det. 6, 2-641st Avn. Regt., Tennessee Army National Guard.

New AAAA Lifetime Members

CPT Brendan P. Brye
Albert L. Winn
Charles K. Joines
CSM James Etheridge
Michael Weegar
Jack H. Martinez Jr.
CW2 Tom Barrett
Robert W. Frost
CW3 Paul Laser
MAJ Michael Braun
LTC Bryan M. Bogardus
CSM William Lynn Sanford
COL Patrick T. Sullivan

New AAAA Members

Air Assault Chapter
PFC Katherine O. Acosta
SSG Michael J. Arellano
SPC Marcus Ayala
SPC Zachary C. Baker
SPC Alexander P. Brissette
SPC Holly A. Clark
PFC Angye Z. Davis
PV2 Chad Duncan
PFC Jesse Johnson
1LT Hunter J. Jordan
PV2 Jessica M. Kennedy
SPC Ricardo S. Montanez
CPT Benjamin M. Owen
SPC Courtney D. Riddick
SGT Rebecca L. Rutherford
SSG Ty S. Smith
SPC Colin F. Styer
PFC Randy D. Swafford
PV2 Christopher J. Sweeney
SSG Kenneth P. Tecala
PFC Tyler J. Westenbarger
SPC Kevin T. Wright
Aloha Chapter
PFC Noah C. Chun
PFC Kyle C. Steinke
Arizona Chapter
PV2 Marion B. Manuel
Battle Born Chapter
PFC Kevin C. Dillon
SPC Joseph Pajarillo
Cedar Rapids Chapter
SPC Ryne K. Eid
Connecticut Chapter
Matthew Lisk
Embry Riddle Eagle Chapter
PV2 Amanda C. Barker
Frontier Army Chapter
SPC Preston Cowick
SGM Robert Hilton Maze
Gold Standard Chapter
PV2 Logan C. Cooper
Great Lakes Chapter
SPC Albert A. Stanker, II
Griffin Chapter
SFC Juan C. Ayon
CW5 John Bilton
MSGT James M. Binari
1LT Nicholas G. Brischler
TSgt Brandi M. Brown
SGT Orian S. Busse
SFC Christopher R. Butler
PFC Juan S. Caicedo-paz
SGT David A. Calderon
CW2 Douglas A. Carr
SFC Ainsworth L. Carridice
SSG Nathan Y. Choi
SGT Fredrick L. Crawford, Jr.
SSG Joseph L. Cutwa
PFC Jose Fimbrez
SSG Ben M. Forsberg
SSG Benjamin J. Gutson
MSG John A. Hamilton
1SG Andrew M. Hennessy
PFC Khanh Q. Hua
SPC Alycia E. Jennings
SSG Elijah L. Joice
SGT Wesley M. Lokey
CW2 David I. Marschall
SPC Christopher T. McClure
CPT Michael S. Noronha
1SG Kenneth S. Paul
SSG Bryan M. Pugh
PFC Davin M. Ragland
SGT Kenneth R. Reatherford
SPC Jose A. Santa Cruz
SGT Trever L. Sherman
CW4 Aaron N. Simbro
SPC Quinttreyvious R. Smith
SGT Jane P. Snider
SFC Jimmy Vence
SSG Hunter L. Whirley
Idaho Snake River Chapter
PV2 Justin R. Hanks
Land of Lincoln Chapter
CW2 Andrew Mark Mosley
Mid-Atlantic Chapter
SPC Scott A. Eaton
Manuel E. Santiago
SPC Jordan Sheets
SPC Alex M. Vines
Minuteman Chapter
SPC Brendan M. Meehan
Morning Calm Chapter
2LT Nathan Alfonso
SFC Albert Brathwaite
SSG Fabian Diaz
CW2 Brenden John Enns
1LT Ludovic Funfrock
SFC Carroll Elmo Hinson, V
SPC HEEJUN Park
CPT Andrew Park
1LT Trenton Pates
CSM Johnny Robbins
CPT Charles R. Whitaker
Mount Rainier Chapter
SPC Christian S. Harriage
PV2 Mark S. Mahon
PFC Christian A. Terret
SPC Gaige W. Tvrs
Northern Lights Chapter
PV2 Markus D. Delapino
Oregon Trail Chapter
SPC Dalton C. Backlund
SPC Stephen A. Long
CW2 Michael Newgard
Pikes Peak Chapter
SGT Brian E. Lewis
SGT Hudson T. Moe
SPC Jerad M. Tew
ShowMe Chapter
SFC Charles John Naugle
Southern California Chapter
PFC Alex M. Lopez
Tarheel Chapter
CPT Calvin Farrell
Thunder Mountain Chapter
PV2 Brendan T. Zielanski
Thunderbird Chapter
PV2 Christian M. Lara
Volunteer Chapter
John Hansford Kinard III
Voodoo Chapter
PV2 Ryan M. Millon

LOST AAAA MEMBERS

Help AAAA locate a lost member on this list and receive a FREE one month extension to your AAAA membership.
2LT Jordan Nathaniel Adams
John E. Arthur
CW3 Michael A. Avillion
MAJ Don Baker
PV2 Michael A. Baldenegro
CW2 Alexander Beckett
CW5 Michael G. Behrendt
MAJ Joseph C. Bell
2LT Tyler M. Booth
CW2 Eric A. Brown
CPT Brendan P. Brye
Adam P. Busch
CW2 Spencer D. Bush
MAJ Jimmie L. Canupp, III
MAJ Anthony F. Colgary, IV
PFC Wesley A. Cook, Jr.
PV2 Keolamana N. Corpuz
CW4 Andrew Cranford, Ret.
SPC Andre Cummings
CW3 Billy Dart
CW3 Douglas A. Daughenbaugh
CDT Samantha R. DeCapua
SGT Luisana DeJesus
CW5 Immanuel DelaCruz
COL Linn Desaulniers
1LT Chad Dieter
MAJ Bobby L. Doak
Steve Dolinsky
COL Sharlene J. Donovan, Ret.
1LT Patrick Joseph Doumont
PV2 David Fanego
CDT Cameron Flowers
LTC Charles Franchina, Ret.
CW2 Jordan Frizzell
CPT Joseph Garcia
SGT Robert George
SSG Christopher A. Gilbuena
LTC John D. Goette, Jr.
CPT William T. Grantham
MAJ Nelson Gray
SSG Jacob W. Hale, Ret.
CW3 Christopher Hammond
CW2 Matthew Hattie
COL Ray Herrera
CPT Nathan William Herrick
Craig Hicks
Tharon Honeycutt
SGT Andrew J. Hudgeons
Thomas Huhn
CW5 Peter G. Hull, Ret.
CPT Benjamin Isaacs
SPC Dustin B. Jacobs
2LT Eric R. Jaramillo
SPC Adam J. Joens
CW3 Thomas D.Johnson
CW4 Daniel E. Johnson
PFC Dale A. Jone
CW4 Susan Jordan
WO1 Michael Keeton
Mason R. Knisely
PFC Paul M. Kooro
Julie A. Kress
CW5 James F. Krueger
SPC Daniel L. Lee
CW3 Semi I. Lemafa
SFC Christopher J. Lightfritz
Frank A. Lillo
SPC Jeffery T. Lloyd
CPT Peter J. Lofreddo
LTC Christopher W. Logsdon
PFC Samuel T. Lora
WO1 David P. Lorange
CW4 Charles Macdonald
CPL Williams D. Marquez
SGT Ryan McKee
SGT Roman Milanowicz, Ret.
David A. Miller
CW4 Aaron Mitchell
LTC Bryan Morgan
CW3 Jonathan Morrison
CW2 Christopher D. Neal
CW4 Ryan R. Orr
LTC David A. Palmer, Ret.
MSG Apelila N. Paresa
SPC Joseph James Peck
1SG Ericka L. Perez
SPC Torre Peterson-Waldvogel
SGT Tiffany Pineda
Raymond Pitre
CW2 Meghan E. Polis
CPT Kyle D. Price
CPT James Raymond, CPT
WO1 Brandon M. Richards
WO1 Evan T. Richey
COL Andrew J. Rochstein
Andrew Rodriguez
CW4 Latny L. Salt
MAJ Edward Sauter
CPT Timothy A. Schafer
MAJ Peter Schmitt
CPT Ariel Schuetz
WO1 Alicia M. Sexton
CPT Kristoffer L. Sibbaluca
Brian J. Skiltow
CW2 Bret A. Sosebee
SFC Michael G. Stringfellow
WO1 Matthew A. Taylor
Bruce Tenney
SGT Kenneth L. Thomasian
SPC David J. Thompson
SPC Brian E. Thompson
SPC Michael D. Turner
SPC Lozaro V. Vagas
COL John M. Vannoy
SPC Edward Velasquez
SFC Brandon B. Vilt
LTC Paul S. Walker, Ret.
CW3 Daniel Warden, Jr.
CW4 David Webster
SSG Allen V. Wedhorn
CPT Ryan G. Whipple
CW3 Travis L. Williams
Olivia Wolfgram
SSG Colton J. Young

AAAA TOP RECRUITER

AAAA congratulates the following Top Recuiter!

CW5 John S. McConnell

Recruited 60 members!
Volunteer Chapter
October 2018

AAAA awards $100 to the member who recruits the most new members in a given month (minimum of 10 members to qualify).

AAAA **Family Forum**

Sharing Info From Our Senior Leaders at AUSA's Family Forum

By Judy Konitzer

Secretary of the Army Dr. Mark Esper, Chief of Staff of the Army General Mark Milley, and Sergeant Major of the Army SMA Daniel Dailey, in Family Forum #3 Army Senior Leader Town Hall at AUSA's 2018 Annual Meeting 8-10 October, shared their thoughts and answered questions from attendees and posts from Facebook.

AUSA COURTESY PHOTO

Army top leaders field questions during Family Forum III at the 2018 AUSA Annual Meeting.

Milley emphasized taking care of Soldiers and families remains their top priority. "Readiness is not just a bumper sticker. It's not something we take lightly… It's very integral to the overall health of the force."

All agreed that they want to provide a quality of life which Soldiers and their families deserve, while recognizing spouses have a direct cause and effect upon their Soldiers. Esper shared that traveling with their wives to bases around the world and holding meetings with FRGs, spouses, conducting Town Halls, visiting child development centers, and hospitals etc. gives them an opportunity for needed feedback. Milley felt that the services take care of families better than any other large organization but, "We are not perfect, so… give us rocks to put in our rucksacks!"

Marrying Into a Way of Life

An attendee questioned what to tell someone if they were considering marrying a Soldier. Dailey candidly said, "… being in the military is a hard business and no one should enter it without their eyes wide open… The stress for families is off the charts compared to civilians, but it is a calling and a way of life!"

While the Sponsorship program has weakened, it is still especially important for younger families and goes a long way towards making successful transitions. Military One Source's 24 hour call center, Army Community Service's specialty areas, and the Chaplains provide resources and programs that just need to be understood as being available.

Living in Older On-Post Housing

A Facebook query, as well as from several in attendance, voiced concerns about living in on-post historical homes or in one of the 36,000 built before 1978. Health issues related to lead paint, asbestos, mold, or drinking water from contaminated lead pipes were surfaced. One spouse stated she made reports to their local Housing Office with nothing being done to acknowledge or remedy the problem. Milley emphasized that "no one wants our Soldiers or their families to be at risk and is committed to getting this fixed." If reporting the problem to Housing doesn't work, then go thru the chain of command and to the garrison commander. If that does not resolve the issue, then "don't wait forever and a day" and "use the Global network to email us." They agreed to meet with those having a problem after the forum to further investigate and hold people accountable.

Problems Encountered with Moves During 2018

40% of relocations take place during the summer and concerns surfaced about many problems encountered this year. With a nationwide shortage of drivers and some negligent companies, Milley emphasized that taking time to document and file all claims and problems is especially important. This is a DoD problem and Transportation Command is holding companies accountable.

Improving Spousal Employment

Military spouses are overqualified and underemployed, so improving license portability, educating companies

about hiring military spouses, education opportunities, and installation standardization for home-based employment programs are steps forward. There is also bipartisan support on the Hill to make needed changes.

Improving EFMP Transfers

Some EFMP transfers involved delays in services and schools being available within a reasonable distance. Esper heard positive and negative feedback in his travels, so it needs to be determined if problems are isolated or systemic before solutions can be established. A dialogue with the incoming command earlier in the process and before transferring can solve many problems and may involve deciding whether to make the actual move.

For more info from the Senior Leader's Town Hall as well as live streaming of all events go to *www.ausa.org/events/2018-annual-meeting/live-stream*.

Judy Konitzer is the family forum editor for ARMY AVIATION; questions and suggestions can be directed to her at judy@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 throughout the calendar year 2018 through November 30th. 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!***

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ARMY AVIATION HALL OF FAME

2020 Nominations Due June 1, 2019

Award forms are available at quad-a.org

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.

AAAA **Legislative** Report

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

Mid-Term Election After Action Review!

The holiday season is upon us and with that comes reflections on November's midterm elections and a short debrief regarding the potential implications to defense funding and Army Aviation! Many predicted a big change in Congress, but the election of over 80 new freshmen members of the House and Senate is undoubtedly significant. All four Army Aviation Caucus co-chairs (Roby–AL, Brooks–AL, Gabbard–HI, and DeLauro–CT) won their re-elections which is good for our caucus advocacy. Other notable re-election wins include Perry–PA and Brown–MD who have worn Army Aviation wings. Additionally, incoming freshman Mark Green, a former Night Stalker flight surgeon, also won his election for a House seat (TN-4); replacing Marsha Blackburn who won a seat in the Senate for TN.

Split Congress – That's the real news!

The big deal, which many predicted, was a change of control in the House of Representatives where the Democrats gained enough seats to take the helm. This is a big deal because they will control what legislation is sent to the Senate for passage and historically, they have been less pro-National Defense than the GOP. House Armed Services Committee (HASC) Chairman Rep. Thornberry (TX) will relinquish the chairmanship to current HASC Ranking Member Adam Smith (WA). On defense issues, this will not likely change a lot because Smith has been very supportive of DoD readiness and defense, but what is unknown is where defense will fall in terms of the Democratic caucus's priorities. It's safe to assume that many other issues, to include investigations into the Trump Administration will take higher priority; nonetheless the Democrats' margin of control is slim which could force some measure of compromise. A concern that all share is how this Congress will handle the Budget Control Act caps on defense funding (a.k.a. Sequestration) which comes back into the equation as the FY20 defense budget request passes over to Congress in February. At this point there are three solid appropriations (FY17, 18, and 19) in the bank so that is a lot of modernization funding to work with while our DoD leaders negotiate the FY20 funding. What our reader base should watch for early in the new Congress is how well the Trump Administration and the GOP controlled Senate work with Democratic House leadership. We will hope for more compromise than we've seen in recent years, but due to the strong political divide it's likely that defense funding will be again held hostage as a bargaining chip for conflicting agendas. Indications at this point lean toward the White House requesting $700B for defense in FY20 and Sen. Jim Inhofe, chair of the Senate Armed Services Committee has indicated he supports $730B.

What's at Stake for Army Aviation?

Readiness? Yes, maybe some risk, but in the last 3 years, re-building Army readiness has largely had bi-partisan support. Modernization? Yes, certain risk, because the DoD has an appetite for big ticket items such as F35 and Future Vertical Lift and the DoD is already being asked to tighten their belt. Research and development funding? Certainly, at risk, because it's usually the first funding cut when forced to make hard decisions, so we have to watch what happens with top line budget caps because we are depending on research, development, test, and evaluation (RDTE) funding to advance programs for a new scout and for a new medium lift helicopter. The Congressional shift comes with uncertainty, and the health of our current fleets falls upon the maintainer up through the senior leaders reading this article to preserve the robust health of our Army Aviation enterprise.

What's Next?

No rest for the weary. While you glance through this magazine and sip your egg nog, our leadership is already planning for the FY20 rollout by making constant trips to Capitol Hill to advocate for the funding that will officially be requested in January. As stated before, because we are not in a Continuing Resolution short term budget situation as in years past, this allows our enterprise to focus on the next steps, including Spring Congressional hearings, which provide the opportunity for members of congress and Army Aviation leadership to engage in productive discussions. The holidays will come and go quickly and all we can hope for is that we do not encounter a post-Christmas Grinch that will hamper our 2019 efforts to continue the growth of our Aviation enterprise in modernization and readiness.

Next Month

In January we will provide a detailed layout of the budget rollout process, Aviation general officers we expect to appear before Congress, and how that process is critical to attaining funding in the budget request, but also how industry uses that process to benefit their specific interests.

AAAA National Executive Board Nominations

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

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.

Erickson Awarded U.S. Pacific Command Aerial Services Contract

U.S. ARMY NATIONAL GUARD PHOTO

Erickson Incorporated, Portland, OR, has been awarded a firm fixed price, indefinite-delivery/indefinite-quantity contract for a base year with options for three additional years. The contract will provide dedicated rotary wing and fixed wing aircraft to the U.S. Pacific Command (USPACOM) area of responsibility (AOR) which includes, but is not limited to, continental Asia, Philippine Islands, and countries supporting operations in the Philippines. Erickson will execute the contract utilizing organic rotary and fixed wing Erickson platforms.

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

Applied Visual Technology Inc.,* Orlando, FL, was awarded a $26,000,000 modification (P00007) to contract W900KK-13-D-0001 to develop, test, integrate and field hardware and software subsystems to achieve a fully functional and concurrent Aviation Combined Arms Tactical Trainer system; work locations and funding will be determined with each order, with an estimated completion date of Dec. 12, 2020.

DynCorp International LLC, Fort Worth, TX, was awarded an $18,153,589 modification (P00199) to contract W58RGZ-13-C-0040 for aviation field maintenance services; work will be performed in Afghanistan, Iraq and Germany, with an estimated completion date of Dec. 31, 2018.

General Atomics Aeronautical Systems Inc., Poway, CA, was awarded a $192,660,310 modification (P00071) to contract W58RGZ-17-C-0018 for Gray Eagle performance-based logistics; work will be performed in Poway, with an estimated completion date of April 23, 2019.

Lockheed Martin, Orlando, FL, was awarded multiple contracts: a $79,383,886 modification (0006 03) to contract W52P1J-17-D-0043 for night vision sensor systems, subcomponent production and technical services for the Apache attack helicopter – work locations and funding will be determined with each order, with an estimated completion date of Oct. 31, 2021; and, a $631,757,949 fixed-price-incentive Foreign Military Sales (Netherlands and Japan) contract to procure a variety of Hellfire II missile variants in containers – work will be performed in Orlando, with an estimated completion date of Sept. 30, 2021.

Longbow LLC, Orlando, FL, was awarded an $8,973,759 modification (P00073) to contract W31P4Q-16-C-0035 for laser and longbow HELLFIRE engineering services; work will be performed in Orlando and Ocala, FL, with an estimated completion date of Nov. 7, 2019.

The Boeing Co., Mesa, AZ, was awarded multiple contracts: a $100,000 minimum, $45,000,000 maximum indefinite-delivery/indefinite-quantity, firm-fixed-price contract (H92241-19-D-0001) for 56 upgraded primary airframe structures for the A/MH-6 rotary wing aircraft – the majority of the work will be performed in Mesa; a $242,109,170 modification (P00021) to foreign military sales (United Arab Emirates) contract W58RGZ-16-C-0023 for the remanufacture of eight, and procurement of nine new-build Apache AH-64E aircraft – work will be performed in Mesa, with an estimated completion date of Feb. 28, 2023.; and a $46,051,155 modification (P00097) to contract W58RGZ-15-C-0017 to complete negotiations on, and take delivery of, undelivered items as well as continue investments in both supply chain management performance and reliability improvements – work will be performed in Redstone Arsenal, AL, with an estimated completion date of April 30, 2019.

The Boeing Co., Ridley Park, PA, has been awarded a $42,835,847 cost-plus-fixed-fee contract modification under delivery order H92241-18-F-0022-P00002 for four new build MH-47G rotary wing aircraft; the contract modification is funded with fiscal 2018 procurement and aircraft procurement, Army funds; the majority of the work will be performed in Ridley Park.

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AAAA **Awards**

Order of St. Michael Inductees

Bronze

Grant Crawford
CW5 Christopher A. Rau
CPT Brian P. Thacker
CW5 Benjamin Pletcher
LTC Erik K. Kober
LTC Kevin Ferreira
CW5 Christopher Panarese
CW4 James McCauley
MAJ Michael M. Braun
SFC Jason T. Christman

Our Lady of Loreto Inductees

Sarah Haddon
Patricia Augenstein
Nancy Bizjak
Melissa Frentz
CSM Thomas Honkus, Ret.
Jessica M. Cotriss

Award Nominations Are Open NOW!

Recognize Our Soldiers Doing a Great Job.

Recognize your outstanding Soldiers through our AAAA Awards program! ***Check out the Awards section on quad-a.org***

AAAA National Awards

Presented at the Annual Army Aviation Mission Solutions Summit

Suspense: January 1

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

AAAA Hall of Fame Inductions

Presented at the Annual Army Aviation Mission Solutions Summit

Suspense: June 1

All AAAA Nomination forms are available on the AAAA Website:

quad-a.org

Questions? Call the AAAA National Office: 203 268-2450

People On The Move

Changes of Command/ Responsibility

Fix Takes Command of TF No Mercy

U.S. ARMY PHOTO BY SGT STEVEN LOPEZ, 101ST CBT. AVN. BDE.

1st Battalion, 101st Combat Aviation Brigade, 101st Airborne Division (Air Assault), Task Force No Mercy, incoming commander, LTC Matthew Fix returns the colors to battalion CSM Jose Perez during an assumption of command ceremony at Jalalabad Airfield, Afghanistan Nov. 10, 2018. Pictured are (l to r) 101st CAB commander, COL Matthew Weinshel; LTC Dennis Lockhart, interim TF commander; Fix and Perez.

UNMANNED AIRCRAFT SYSTEMS (UAS) GRADUATIONS

WARRANT OFFICER

AAAA congratulates the following Army graduates of the Tactical Unmanned Aircraft Systems Operations Warrant Officer Technician Course, MOS 150U, at Fort Huachuca, AZ.

9 Graduates, 20 November
WO1 Jesse J. Kyro **– DHG**
WO1 Adam H. Kurth **– HG**
WO1 Eric T. Blanton
WO1 Trey H. Cartier
WO1 Jeffrey A. Clapp
WO1 Corey A. Clark
WO1 Robert H. Henrikson
WO1 Alexander D. Kalal

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
9 Graduates, 8 November
SPC Kevin W. Martinez **– DHG**
SPC Carlos A. Salazar **– HG**
SGT Ryan T. Fariss
SPC Dylan K. Cobb
SPC Kyle C. Grimes
SPC Joshua R. Pyatt
SPC Trevor T. Ross
SPC Michael Stebbins
SPC Jeremy D. Wegner

UAS OPERATOR

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

Shadow UAS Operator Course
18 Graduates, 5 November
SGT James E. Bills
SGT David A. Caceres
SGT Rhys W. Coffey
SGT Michael A. Collins
SGT Kyle R. Hartigan
SGT Luem Kim
SGT Jamonte J. Lightfoot
SGT Christopher R. Reynolds
SGT James D. Serrano
SGT Daniel G. Wolfe
CPL Andrew T. Topits
SPC Manuel A. Cotto
SPC Michael E. Davis
SPC Ian R. Medina
SPC Brandon C. Wagner
PFC Erik W. Hicken
PV2 Daniel J. Carney
PVT Camryn Kade R. Sittig
DHG = Distinguished Honor Graduate
HG = Honor Graduate
* = AAAA Member
+ = Life Member

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.

FSXXI-OCT 25

FSXXI-NOV 8

44 Officers, October 25

Commissioned Officers

2LT Webb, Beau C. – DG
2LT Cremins, Michael W. * – HG
2LT DiPalma, Jett A. – HG
2LT Fairbrass, Elliot L. – HG
2LT Hopkins, Shane C. – HG
2LT Berry, Sean R.
2LT Bowman, Matthew G.
2LT Breed, Austin G.
2LT Cardon, Christopher C.
2LT Carpenter, Kayla S.
2LT Cotton, Joseph D.
2LT Davis, Aleksa L.
2LT Fluke, Phillip C.
2LT Hinrichsen, Kyle W. *
2LT Hughes, Austin R.
2LT Kreuk, Hans
2LT Lemon, Benjamin I.
2LT Lindner, Kristopher N.
2LT Matos, Andrew N.
2LT Miller, Joshua D.
2LT Negley, James M.
2LT Payne, Tyler H.
1LT Rohrig, Steven C.
2LT Sitarz, Hans C.
1LT Sprinkle, Christian S.
2LT Sterk, Colton G.
1LT Stewart, Mikayla A.
1LT Stockdale, Caleb J.
2LT Taylor, David M.

Warrant Officers

WO1 Katz, Andrew D. – DG
WO1 Infinger, Layne A. – HG
WO1 North, London R. – HG
WO1 Adams, Matthew W.
WO1 Diener, Jacob R. *
WO1 Hong, Rebecca Y.
WO1 Manuel, Jacob L.
WO1 Olguin, Stephen J.
WO1 Payne, Brandon A.
WO1 Perle, Brett C.
WO1 Pierce, John H.
WO1 Qader, Sheshar N.
WO1 Rojas, Reinaldo R.
WO1 Saalfeld, Jeremy F.
WO1 Wood, Zachariah D. *

51 Officers, November 8

Commissioned Officers

2LT Wasek, Eric J. – DG
2LT Bremer, Brent M. – HG
2LT Davis, Madison C. – HG
2LT Dykes, Dustin A. – HG
2LT Ziegeler, Matthew H. – HG
2LT Aponte, Donald J.
2LT Baker, Savannah A.
2LT Berdis, Gregory J.
2LT DeRidder, Mitchell H.
2LT Ferguson, Eric H.
2LT Hoffman, Joseph M.
2LT Jollota, Erin M.
2LT Kanavos, Adam R.
2LT Kim, Benjamin Y.
2LT Lane, Calvin T.
2LT Lawson, Jeffrey A.
2LT Malloy, Kathleen A.
2LT Morgan, Ryan W.
2LT Murt, Ryan T.
2LT Parish, Tomas A.
2LT Pearson, Eric M.
2LT Robinson, Lars C.
2LT Ryan, Michael J.
2LT Schultz, Ellen L.
2LT Tettelbach, Keaton F.
2LT Tyler, Nicholas J.
2LT Vander Yacht, Douglas K. *
2LT White, Daniel R.

Warrant Officers

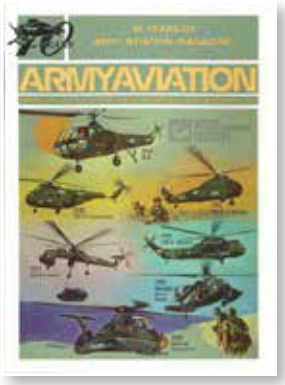
WO1 Robison, Colin T. * – DG
WO1 Ligon, Aaron M. – HG
WO1 Peppers, Andrew R. * – HG
WO1 Romero, Trevor S. – HG
WO1 Sanders, Corey A. * – HG
WO1 Ammer, Andrew T.
WO1 Brye, Justin P.
WO1 Castonguay, Jerry M.
WO1 Chin, Danny
WO1 Craven, William B.
WO1 DeMaria, Christopher R.
WO1 Harmon, Brandon M.
WO1 Hernandez, Irvin J.
WO1 Krynauw, Pieter A.
WO1 Lewis, Michael W.
WO1 Miller, Mitchell R.
WO1 Quiles, Joel *
WO1 Saine, Martin A. *
WO1 Shepherd, Jacob H.
WO1 Smith, Ronald G.
WO1 Trobaugh, Michael D. *
WO1 Webb, Michael D.
WO1 Wiersma, David M. *

DG = Distinguished Graduate
HG = Honor Graduate
** = AAAA Member*
+ = Life Member

Art's Attic

By Mark Albertson

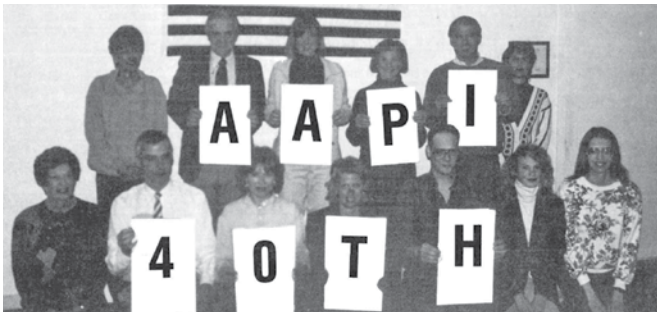
Art's Attic is a look back each month 25 years ago and 50 years ago to see what was going on in ARMY AVIATION Magazine. Art Kesten was our founder and first publisher from 1953 to 1987. He was also the founder of the AAAA in 1957 and served as its Executive Vice President. Each month contributing editor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



25 Years Ago
December 31, 1993

Anniversary Issue, 40 Years of Army Aviation Magazine:

Army Aviation Magazine Staff
Front row, left to right: Jill Thomas, Bill Harris, Barbara Ross, Deirdre Frost, Steve Moore, Deb Simons and Debbie Coley. Back row, left to right: Mary Ann Sterling, Art Kesten, Lynn Coakley, Dotty Kesten, Terry Coakley and Mary Ellen Kother.



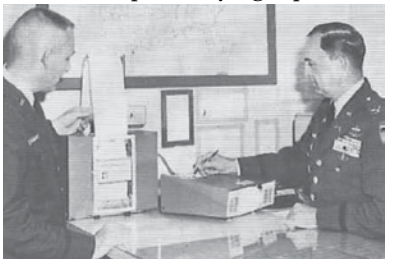
Foundational '50s
Aerial view of the world's first heliport at Felker Army Airfield, Fort Eustis, VA, 1954.

Significant '60s
First AH-1 Cobra delivered to the Army by Bell Helicopter, May 1967.

Enervating '80s
Secretary of the Army, John O. Marsh, OK's creation of the Aviation Branch in 1983 with USAALS formed at Fort Eustis.

50 Years Ago
January 24, 1967

The Moving Hand . . .
Fort Benning, Georgia: A new teleautograph has been installed at Fort Benning by the 10th Detachment, 16th Weather Squadron of the USAF. The teleautograph is projected to improve flying operations and air safety. COL William M. Zimmerman (right), commander of Lawson Army Aviation Command, makes the first transmission with the new apparatus. Looking in is Air Force Major Harold E. Bradberry, detachment commander.



First Tow
The U.S. Army AH-56A Cheyenne, the Army's new gunship helicopter built by the Lockheed-California Company, is shown firing its first TOW anti-tank missile during a mid-December flight test at the Yuma Proving Ground in Arizona. The TOW is a tube-launched, optically-tracked, wire-guided missile.

AAAA Annual Luncheon, Washington, D.C., November 1, 1968: Aviator of the Year: Major Robin K. Miller:
Major Robin K. Miller, Silver Star recipient for actions in Vietnam, stated in his remarks: ". . . I am representative of the aviators of the '60s who have seen Army Aviation grow up from a few support units that it was earlier with antiquated aircraft to the mighty force that it is today… and I want to make certain that you all know that we aviators of the '60s recognize the fact that many people in this room have worked so hard to make this possible… to keep the dream of Army Aviation alive during the past 20 years."

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.

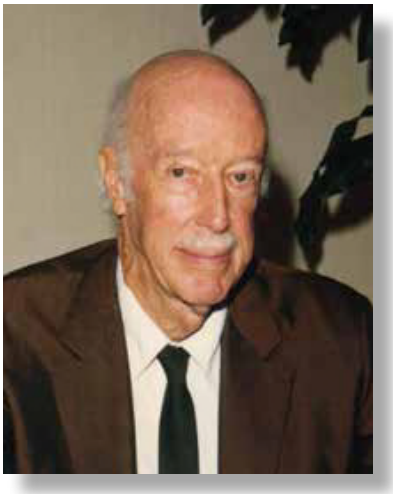
The actual Hall of Fame is located in the Army Aviation Museum, Fort Rucker, Ala.

The deadline for nominations for the 2020 induction is June 1, 2019

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

Bartram Kelley

Army Aviation Hall of Fame 1995 Induction - Atlanta GA



Bart Kelley is one of the original and most outstanding pioneers of the helicopter industry. After joining Arthur Young and Bell in 1941, his engineering leadership was at the forefront of every new design at Bell Helicopters for the next 35 years.

In the course of Bart Kelley's tenure as senior engineer (Director of Engineering; Senior Vice President, Engineering) with Bell Helicopter Company, over 24,000 Bell helicopters were produced. By far the largest part were delivered to the U.S. Army as the H-13 Sioux, UH-1 Iroquois, AH-1G Cobra, OH-58 Kiowa, and XV-15. Mr. Kelley actively supervised the design, test, and development of all Bell experimental and production aircraft, and was accepted by his fellow engineers as clearly outstanding in his field.

A helicopter pilot himself, Bart Kelley was uncommonly sensitive to the flyability of aircraft from the pilot's point of view. Through extensive contact with the U.S. Army and its crewmen, he also became uniquely responsive to military needs with respect to reliability and maintainability.

Kelley's Model 209 Cobra attack helicopter, the first in the world, was designed and developed without government request or assistance during the Vietnam War. After acceptance, it emerged as the AH-1 and was used extensively in that war. In successive dash numbers, it is still used extensively by the U.S. Army and U.S. Marine Corps and in several allied foreign countries. Its basic configuration has been copied in later attack helicopter designs.

Bart Kelley also presided over the design of Bell's tilt-rotor aircraft, the first experimental model which flew successfully and often in the 1950s and early 60s, and which may well become the outstanding vertical take off and landing aircraft of the future.

Bart Kelley has designed aircraft which are flying in more than 70 countries, the world over.

Possessed not only of vast engineering expertise, Kelley has also exhibited an unusually perceptive instinct for the practical and (in a complex field of endeavor) the simple. In a word, he has exceptionally keen judgment as to what works well and reliably and what doesn't.

His distinguished service in the development of rotary wing aircraft led to his Honorary Fellowships in the American Helicopter Society and the Royal Aeronautical Society. After 35 years of service, Bart Kelley retired in 1975, but served as a consultant with Bell Helicopter Textron.

Readiness is the metric that matters.

Always ready.
Never stop improving.

We know what it takes to fly hot and high because we've powered the U.S. Army's Apache and Black Hawk missions since 1978. Experience has inspired our future.

We are ready.

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