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LEADERSHIP
& LEADERSHIP DEVELOPMENT

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THE PROFESSIONAL BULLETIN OF THE ARMY AVIATION BRANCH

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The Doctrine and Tactics Division, Directorate of Training and Doctrine (DOTD), U.S. Army Aviation Center of Excellence (USAACE), Fort Novosel, AL 36362 produces the *Aviation Digest* quarterly for the professional exchange of information related to all issues pertaining to Army Aviation. The articles presented here contain the opinion and experiences of the authors and should not be construed as approved Army policy or doctrine.

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About the Cover:

Soldiers of Train Advise Assist Command—East held a base defense drill at Tactical Base Gamberi, Afghanistan. The drill improves Soldier readiness by simulating an attack on the base, complete with simulated casualties that need to be treated. This training is important to ensure Soldiers know how to respond quickly and effectively to any threat. U.S. Army photo by SFC Randall Pike.

The Command Corner

LEADER DEVELOPMENT IN ARMY AVIATION

Developing Army Aviation leaders of today and tomorrow is the most consequential thing we do in Army Aviation. We must develop aviation leaders of high character, competence, and commitment to lead America's sons and daughters in large-scale combat. They must be technical and tactical experts in combined arms maneuver to uphold the sacred trust with the Soldier on the ground. This incredible responsibility requires us to develop, resource, and execute high quality professional military education (PME) and leader development programs (LDP) in units.

Leader development, informed by doctrine, happens during every garrison activity, training event, and real-world operation. Field Manual (FM) 6-22, "Developing Leaders," states "There is no more important task for the U.S. Army than developing its people to lead others to defeat any enemy, anywhere."[1] It is critical that our LDPs are implemented in a deliberate, continuous, and progressive process that build leaders across three mutually supporting domains—operational, institutional, and self-developmental. Army Aviation spans these domains by designing and executing tough, realistic training and formative experiences; building institutional knowledge through our PME; and cultivating self-development programs by empowering Soldiers to invest in themselves.

Army Aviation's developmental model is designed to first *sharpen* its leaders into tactical and technical aviation warfighters. Early in their careers, our leaders must focus their time on developing the skills and expertise to become technical and tactical experts. They focus on mastering the fundamentals of air-ground operations and combined arms maneuver through deliberate and large-scale combat operations (LSCO)-focused training. Only then, once our leaders become masters of their craft, should they broaden across the Aviation Enterprise, throughout the Army, and across the Joint Force. These broadening opportunities provide critical opportunities for aviation leaders to learn and expand their knowledge, skills, and attributes necessary to serve at the senior field-grade level and beyond.

The U.S. Army Aviation Center of Excellence leads Army Aviation in the institutional domain. We respond to changes from the Army's operational concepts to multidomain operations by incorporating these modifications into our PMEs. We have modernized the aviation officer, warrant officer, and noncommissioned officer (NCO) PMEs, all focused on the aviation warfighter, and we are continually updating our programs of instruction (POIs) for multidomain operations in LSCO.

Our PME is adapting across all three cohorts to capture the unique role commissioned officers, warrant officers, and NCOs fill within the branch. During the Basic Officer Leader Course and the Captains Career Course, lieutenants and captains engage with peers from other branches using a common scenario shared between their combined arms teammates across the Army Training and Doctrine Command. We are also in the process of revising our warrant officer PME to narrow the scope of instruction primarily focused on platoon- and company-level technical and tactical POI through the Advanced Warfighting Skills course, and at the battalion- and brigade-level through our Aviation Warrant Officer Intermediate Level Education course. This will enable our warrant officers to advise commanders to effectively employ Army Aviation as an integral part of the combined arms team. Additionally, we are redesigning the Advanced Leader Course (ALC) by incorporating a two-phase blended virtual and classroom curriculum. Noncommissioned officers graduating from the ALC are trained in the areas of maintenance management, quality control, and technical inspections. Furthermore, we have standardized our Aviation Maintenance Training Program to enhance aviation readiness by ensuring individual skill proficiency and training is accomplished, annotated, and certified by a qualified maintenance trainer.

Aviation leaders are expected to also develop themselves. Self-development is an individual responsibility that occurs outside of training and PME to gain a deeper understanding of doctrine, hone their technical and tactical skills, and expand their capability through professional reading. Leaders must immerse themselves in doctrine to better understand their duties and responsibilities and how they integrate within the combined arms team. Self-development is also seeking mentors to learn from their experiences. Finally, our leaders must engage in professional reading to expand their understanding of historical events, ongoing conflicts, and leadership lessons to learn from the experiences of others (my recommended Reading List can be found at the link: Intrepid 6 Reading List.docx [sharepoint-mil.us]).

By synthesizing the three leader development domains, Army Aviation will produce highly trained, disciplined, fit leaders of character who are combined arms maneuver experts, capable of thriving in any operational environment against any adversary. We will know we are making progress when an aviation officer walks into any command post, and that officer is thoroughly knowledgeable of doctrine and understands the operational environment and all aspects of combined arms maneuver. Furthermore, they ask and answer incisive questions across all warfighting functions. Then, after that officer leaves, someone turns and asks, "Who was that?" The answer they get is, "That's our Army Aviator!"

Fly Army!

Above the Best!

Be All You Can Be!

Michael C. McCurry
Major General, USA
Commanding

[1]Department of the Army [DA], FM 6-22, Developing Leaders, 2022, p. 1-1

Alaska Army Guard aviators stage helicopters in Nome ahead of annual training and to aid in River Watch, if needed in the spring. Alaska National Guard photo by 1LT Balinda O'Neal.

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Author Guidelines

Articles prepared for *Aviation Digest* should relate directly to Army aviation or reflect a subject that directly relates to the aviation professional. Submit the article to the *Aviation Digest* mailbox at usarmy.novosel.avncoe.mbx.aviation-digest@army.mil.

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Aviation Digest is an open-source publication. As such, we do not accept articles containing For Official Use Only or Classified materials. Please do not submit articles containing Operations Security (OPSEC) violations. If possible, have articles reviewed by an OPSEC officer prior to submission.

Please submit articles via MS Word document format. Articles should not exceed 3500 words. Include a brief biography (50 word maximum) with your article. We invite military authors to include years of military service, significant previous assignments, and aircraft qualifications in their biographies.

Aviation Digest editorial style guidelines follow the American Psychological Association Publication Manual, 7th edition; however, Digest staff will incorporate all necessary grammar, syntax, and style corrections to the text to meet publication standards and redesign visual materials for clarity, as necessary. Please limit references to a maximum of 20 per article. These changes may be coordinated with the authors to ensure the content remains accurate and reflects the author's original thoughts and intent.

Visual materials such as photographs, drawings, charts, or graphs supporting the article should be included as separate enclosures. Please include credits with all photographs. All visual materials should be high-resolution images (preferably set at a resolution of 300 ppi) saved in TIFF or JPEG format. For Official Use Only or Classified images will be rejected.

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The *Aviation Digest* upcoming article deadline and publication schedule is as follows:

April-June 2023 issue articles due NOW (published on or about June 15, 2023)

July-September 2023 issue articles due July 1, 2023 (published on or about September 15, 2023)

October-December 2023 issue articles due October 1, 2023 (published on or about November 15, 2023)

Authors are asked to observe posted deadlines to ensure the *Aviation Digest* staff has adequate time to receive, edit, and layout materials for publication.

Notices to Air Missions (NOTAMs)

What you need to know about the Directorate of Training and Doctrine's (DOTD's) efforts

Directorate of Training and Doctrine Director (COL Eric Puls):

Welcome to our second iteration of the reinstated NOTAMs! As the Army transforms our mindset from Unified Land Operations to multidomain operations, the U.S. Army Aviation Center of Excellence and DOTD are transforming as well. Our professional military education, across the board, is modernizing and ever incorporating more large-scale combat material focused on developing the right balance of technical, tactical, and doctrinal expertise at each level in our leaders' careers. Aviation doctrine has just entered a major rewrite, to incorporate all the changes in the newly published Field Manual (FM) 3-0, "Operations," and anticipating the changes soon to be published in the FM 3-90, "Tactics." We hope to have FM 3-04, "Army Aviation," out for worldwide staffing by early June 2023, with Army Techniques Publication 3-04, "Aviation Tactical Employment," following in early August. If you have anyone in your formation who would like to make a lasting impact to the Aviation Branch and assist in the rewrite ahead of worldwide staffing, please reach out! We can integrate your thoughts into the author team via MS Teams, or, if you're willing, in person for a workshop.

Additionally, DOTD is grateful for the feedback it has received since the Aviation Senior Leader Forum in January 2023 from units that are getting after tough, realistic large-scale combat scenario training! Though Army Regulation 11-33 (28 July 2022), "Army Lessons Learned Program," eliminated the formal requirement for brigade and below commanders to participate in the process outside of specific orders, that doesn't mean that your after-action reviews are any less valuable. In fact, due to this doctrinal pivot point, your experiences are that much more important to help the Aviation Branch get it right as it updates our primary manuals. The lessons you are learning in the field will directly translate into validated tactics, techniques, and procedures codified into our doctrine, and I can't stress enough how important it is for us to hear from you.

Forging Solid Foundations, Developing Leaders, and Driving Change!

Training Division Chief (Mr. Bo Thurman):

The Directorate's Training Division continues work on several lines of efforts to improve the Enterprise through modernization of professional military education to bringing on new systems (see New Systems Integration Branch update). Additionally, our Flight Training Branch has released the 2023 Aircrew Training Manuals, which are located at the following common access card-enabled link: https://armyeitaas.sharepoint-mil.us/sites/TR-ACoE-DOTD/SitePages/Training.aspx?csf=1&web=1&e=c1FwlT. We also continue to drive change by identifying emerging operational requirements through critical task site selection boards (CTSSBs). The Fiscal Year 23-26 CTSSB schedule is posted on page 5.

We continue to ask that Aviation Soldiers, Senior Enlisted Advisors, and Leaders in the field respond to CTSSB surveys to help determine the critical military occupational specialty tasks. If you have any comments or questions for the Training Division, please reach out to us at usarmy.novosel.avncoe.mbx.dotd-training-division@army.mil

The Aircraft Powertrain Repairer MOS 15D survey is open from 9 February 2023 and will close 5 November 2023.

Participants can access the survey using the link below or by using the QR code to the right:
https://survey.tradoc.army.mil/EFM/se/0AFDD71A3728267E

Enlisted Training Branch (Branch Chief: Mr. Morris Anderson):

The Directorate of Training and Doctrine's (DOTD) Enlisted Training Branch (ETB) conducted seven critical task site selection boards (CTSSBs) between July and October of 2022 that will impact training for several Aviation Enlisted and WO courses. The board participants included subject matter expert (SME) voting members from the United States Army Forces Command (FORSCOM), United States Army Reserve Command, Army National Guard, SMEs from the U. S. Army Aviation Center of Excellence (USAACE) Noncommissioned Officer Academies (NCOAs), 1-13th Aviation Training Developers, 2-13th Aviation Training Developers, Air Traffic Services Command representatives, a Quality Assurance Office representative, and the USAACE Training SGM.

Name	Abr.	Last Board	Next Board	Location
Aviation Maintenance Tech WOAC	151A WOAC	Nov 2017	15-19 May 2023	Ft. Eustis
MQ1 UAS Repairer	15M	Sep 2017	22-26 May 2023	Ft. Novosel/MS Teams
AMSO / ATI	SQI – I & C	None	5-9 Jun 2023	Ft. Novosel
Aviation Maintenance Officer	AMOC	May 2021	6-10 Nov 2023	Ft. Novosel/MS Teams
Aircraft Powertrain Repairer	15D	Feb 2019	5-9 Feb 2024	Ft. Eustis
Aircraft Pneudraulics Repairer	15H	Jul 2019	13-17 May 2024	Ft. Eustis
Non-Rated Crew Member	NRCM	Nov 2020	12-14 Mar 2024	MS Teams
Apache Pilot	AH-64	Jun 2020	9-11 Apr 2024	MS Teams
Air Traffic and Airspace Management Technician	150A	Jun 2020	6-10 May 2024	MS Teams
RQ7 UAS Operator	15W	Jun 2021	10-14 Jun 2024	Ft. Novosel/MS Teams
Aviation Master Gunner	AMG	Nov 2021	Jul 2024	Ft. Novosel/MS Teams
MQ1 UAS Operator	15C	Jun 2021	9-13 Sep 2024	Ft. Novosel/MS Teams
Aircraft Powerplant Repairer	15B	Apr 2019	22-26 Jul 2024	Ft. Eustis
Avionics Mechanic	15N	Feb 2020	23-27 Sep 2024	Ft. Eustis
Blackhawk Pilot	UH-60	Aug 2020	11-13 Mar 2025	Ft. Novosel/MS Teams
Chinook Pilot	CH-47	Sep 2020	8-10 Apr 2025	Ft. Novosel/MS Teams
ALSE Technician	ALSE	Oct 2022	10-14 Mar 2025	Ft. Novosel/MS Teams
15 Series Common Aviation Maintenance	15 CAM	Jul 2022	5-9 May 2025	Ft. Novosel/MS Teams
Aviation Maintenance Tech WOBC	151A WOBC	May 2021	24-28 Feb 2025	Ft. Eustis
Aircraft Structural Repairer	15G	Jul 2022	5-9 May 2025	Ft. Eustis
UH-60 Helicopter Repairer	15T	July 2021	14-18 Jul 2025	Ft. Eustis
Aircraft Electrician	15F	Sep 2021	15-19 Sep 2025	Ft. Eustis
RQ7 UAS Repairer	15E	Aug 2022	16-20 Jun 2025	Ft. Novosel/MS Teams
UAS Operators Technician	150U	Oct 2022	11-15 Aug 2025	Ft. Novosel/MS Teams
Fixed Wing	FW Pilot	Jul 2020	3-5 Feb 2026	Ft. Novosel/MS Teams
Maintenance Test Pilot	MTP	Sep 2021	10-12 Mar 2026	Ft. Novosel/MS Teams
Lakota Pilot	UH72	Oct 2021	7-9 Apr 2026	Ft. Novosel/MS Teams

The voting members selected by FORSCOM consisted of experienced and well-rounded Soldiers from Components (COMPOs) 1, 2, & 3, serving in various aviation assignments across the Army Aviation Enterprise, from SSG to SGM and CW2 to CW5. The board members participated in engaging discussions on critical tasks from an Aviation doctrine and personal experience perspective. Throughout the CTSSB process, it was evident the amount of dedication and commitment by the voting board members to enhance the training for their Soldiers and the future of their military occupational specialty (MOS). The following is a summary of the CTSSBs the ETB implemented during the 4th quarter of Fiscal Year 2022 and part of quarter 1 for Fiscal Year 2023:

1 & 2. Common Aviation Maintenance Advanced Leader Course (ALC) and Senior Leader Course (SLC) CTSSB results: convened on 12-14 July 2022 at Fort Rucker, (Novosel), Alabama; included 14 individual MOSs combined in Aviation Maintenance ALC and/or SLC referred to as Combined Aviation Maintenance. The MOSs included were 15B, 15D, 15E, 15F, 15G, 15H, 15K, 15M, 15N, 15R, 15T, 15U, and 15Y. The board consisted of 10 E-8 board members from seven maintenance MOS backgrounds who voted on 12 SL30 and 7 SL40 common maintenance tasks as critical to all Aviation Maintenance career management fields (CMFs).

3. Aviation Operations Specialist (15P) CTSSB results: convened on 19-21 July 2022 at Fort Rucker, (Novosel), Alabama, consisting of 17 E-6 through E-8 board members. The board members voted on 75 SL-10 thru SL-40 critical tasks that will shape the future for Aviation Operations Specialists.

4. RQ-7 Unmanned Aircraft Systems (UAS) Repairer (15E) CTSSB results: convened on 8-11 August 2022 at Fort Rucker, (Novosel), Alabama, consisting of six E-6 through E-7 voting members who voted on 51 SL-10 and 19 SL-30 critical tasks that will shape the future for UAS RQ-7 Repairers.

5. Air Traffic Control Operator (15Q) CTSSB results: convened on 12-15 September 2022 at Fort Rucker, (Novosel), Alabama, consisting of 19 E-6 through E-9 voting members who voted on 58 SL-10 thru SL-40 critical tasks that will shape the future for Air Traffic Controllers.

6. Aviation Life Support Equipment (ALSE) CTSSB results: convened on 17-20 October 2022 at Fort Rucker, (Novosel), Alabama,

consisting of seven E-5 through CW2 voting members who voted on 28 critical tasks that will shape the future for ALSE Technicians.

7. Unmanned Aircraft Systems Operations Technician (150U) CTSSB results: convened on 24-26 October 2022 at Fort Rucker, (Novosel), Alabama, consisting of seven CW3 through CW4 voting members who voted on 37 critical tasks for company and field grade that will shape the future for UAS Technicians.

Critical task site selection boards offer more than a way of identifying critical tasks required for each MOS. They provide insight to potential training gaps at the institutional domain regarding Soldier equipment and training. The tone of these board proceedings set a new standard for other CMFs to emulate regarding the professionalism and mission focus these group of leaders reflected. The SME participation from the NCOAs and Initial Entry Training Schools was nothing less than OUTSTANDING. The ETB execution of these CTSSBs to support the USAACE mission was a resounding success.

New Systems Integration Branch (Branch Chief: Ms. Kelly Raftery):

1. The One System Remote Video Terminal/Soldier Portable One Station Terminal: New Systems Integration Branch (NSIB) personnel completed the technical manual verification (TM 1-5821-394-13&P and TM 1-5821-39513&P) on 27 January 2023. The NSIB also participated in the instructor and key personal training 30 Jan 23-3 February 2023.

2. Spike Non-Line of Sight (SNLOS): An NSIB representative attended the SNLOS Weapon System Live Fire Exercise, 23-27 January 2023, at Yuma Proving Ground, Arizona, to gain critical knowledge of the Spike Missile system operator tasks and guide the development of new equipment training (NET). No formal institutional training will be conducted due to the limited number of units and aircraft obtaining system. The training will only be accomplished by a NET team at the three locations (United States Army Europe, United States Army Pacific, and Immediate Response Force). A System Training Plan waiver is currently being staffed. The waiver is due to this system being an interim long-range precision munitions solution.

3. AH-64: The NSIB continues to conduct training assessments for several materiel releases as the AH-64 Apache continues through upgrades of several subsystems and components as part of the AH-64 helicopter modernization program. The NSIB is an active participant in the following integrated product teams:

- AH-64D/E Digital Captive Boresight Harmonization Kit laptops
- AH-64E V4/V6 AN/APR-39E(V)2 Radar Warning Receiver
- AH-64E Modernized Target Acquisition Designation Sight (TADS)/Pilot Night Vision Sensor Gusset Bracket
- AH-64E Power Control Unit External Relay
- AH-64E V6 Gen III TADS Flight Code Processor
- Apache Fire Control Radar Mast Mounted Assembly Shipping Container
- AH-64D Composite Main Rotor Blade

4. Future Tactical Unmanned Aircraft System: The NSIB anticipates delivery of Increment 1 TSP on 6 February 2023 to conduct analysis and verification of material for NET training.

Officer Training Branch (Branch Chief: Mr. Andrew Mars):

Aviation Captain Career Course Active Component Update (AVC3): The new AVC3 Active course begins 5 April 2023. All students will have a mandatory 75-hour Common Core Distributed Learning (DL) prior to attendance. Most students are aware of the requirement. Ensure students in upcoming classes are also aware of this enduring requirement for all future AVC3 classes.

Aviation Captain Career Course Reserve Course (AVC3-RC): The Common Core DL is also required for all future Reserve and Guard students. All students must complete the new DL prior to attendance in the Phase 1 resident. There has been some feedback from units on the feasibility of combining the two resident phases into one 4-week phase. Analysis is being done to put Phase 1 and Phase 3 resident courses back-to-back in upcoming years to explore the feasibility and suitability of this plan. Feedback is requested on pros and cons of a permanent 4-week resident phase vs. two 2-week phases.

Warrant Officer Professional Military Education Modernization (WO PME MOD): Last issue discussed the update of the WO Advanced Course. Many of you have heard rumors of the update of all WO PME. The concept is rapidly evolving but know that the team is working hard to ensure that WOs receive the right education at the correct milestones in their careers. Expect more information in the next issue.

Flight Training Integration Branch (Branch Chief: Mr. Brian Stewmon):

Course prerequisites have been updated for the following rotary-wing courses: Instructor Pilot (IP) Course, Maintenance Test Pilot Course, Aviation Mission Survivability Officer Course, Aircraft Qualification Course, and Rotary-Wing Senior IP/Instrument Flight Examiner Course. Information for these changes can be found on MilSuite under MilBook, search "USAACE." You can also reach out to your command chief WO, the Army Human Resources Command, or contact the 110th Aviation Brigade standards department at (334)255-9375 or 110thavnbdestandardswaivers@army.mil

Doctrine and Tactics (DTAC) Division Chief (LTC Julie MacKnyght):

We've had a few months now to digest Field Manual (FM) 3-0, "Operations," the Army's capstone FM that will trickle down changes to all our doctrine (not just Aviation's). As Army Chief of Staff GEN McConville states in the foreword, **"Success demands competent leaders who apply doctrine with judgment. Therefore, I challenge you all to learn and then assess doctrine during training and operations. Engage about it in professional discourse and make it better. That is how the Army will fight and win in the future** [emphasis added]." All I can say is, "amen!" Please engage with us, whether through the *Aviation Digest*, emails to our group inboxes, phone calls, or over a friendly coffee or beer. We need to know the lessons you are learning out in the field so we can turn it into relevant doctrine, best practices resources for your peers or wider Army distribution, or mesmerizing PowerPoint slides (only slightly joking on that last one...). Professional disagreement is a good thing, as iron sharpens iron and it will lead to a more prepared aviation Soldier in the future fight.

Doctrine Branch (Branch Chief: CPT Ashley Howard):

Fiscal Year 2023 marks an inflection point for Army doctrine. Field Manual (FM) 3-0, "Operations," released 1 October 2022, changed the concept multidomain operations in a way that requires a fundamental shift across Aviation doctrine, requiring a level of division and theater operations our modern aviators have only read about in old references to Air-Land Operations manuals. Doctrine Branch kicked off the new year in earnest with the revision of FM 3-04, "Army Aviation," and Army Techniques Publication (ATP) 3-04.1, "Aviation Tactical Employment," with the assistance of subject matter experts from across U.S. Army Forces Command and the U.S. Army Aviation Center of Excellence (USAACE). Revisions will close this summer in anticipation of publication late this fall. Additional anticipated releases for this year minimally include: ATP 3-04.16, Training Circular (TC) 3-04.9, TC 3-04.3, TC 3-04.5, and TC 3-04.11 C1. Be sure to visit the Army Publishing Directorate (https://armypubs.army.mil/)to acquire this last quarter's updated doctrine: TC 3-04.12, "Aviation Mission Planning," as of December 2022. Additionally, the Aviation Branch Operations Standard Operating Procedure, or 2 ABOS, with Annexes A: Aviation Handbook, B: BAO/LNO Handbook, C: R-COP, and supporting instructions as of 01 November 2022 can all be found on the USAACE Directorate of Training and Doctrine's SharePoint page. See the address book below for more details.

The Doctrine Branch recently welcomed to the team one Air Traffic Control Specialist, SSG Jadon Cooper, and one Doctrine Developer, CPT Lindsey Straits. The Directorate of Training and Doctrine is always seeking innovative, diligent minds to shape the future of Aviation Doctrine. Contact us today for a unique job opportunity here at Fort Novosel!

Have an idea on how Army Aviation can do business better? Want your voice heard? Documented, well-thought-out changes and recommendations are always welcome here at the Doctrine Branch! Submit a Department of the Army Form 2028 today to usarmy.novosel.avncoe.mbx.doctrine-branch@army.mil

Tactics Branch (Branch Chief: CPT John [Logan] Meehan). NOTAM by (Interim Branch Chief: CW4 Jeremiah C. Bradley):

Our Lesson Learned Team would like to send a shout-out to 404th Aviation Support Battalion (ASB), 4th Combat Aviation Brigade (CAB), and all the command teams, platoon leadership, and maintenance leaders for allowing members from the Directorate of Training and Doctrine to visit during their major field training exercise (FTX). The ASB successfully established the brigade support area, conducting forward arming and refueling point, limited retrans, and downed aircraft recovery team operations, all while fending off simulated small arms, indirect fire, and chemical, biological, radiological, and nuclear attacks. The 404th ASB Commander LTC Steve Sevigny's article, "Lessons Learned for the Force: Battalion Field Training Exercise," is available in this issue of *Aviation Digest.*

Thanks to the 122D ASB, 82D CAB, for contacting the Lessons Learned Team and discussing its recent battalion-level FTX intent, challenges, and lessons learned. We look forward to a follow-up once their team has completed the upcoming deployment to see what the team will have to offer members of the Aviation Enterprise.

Tactics Branch would like to give a special shout-out to the 1st Battalion, 101st Aviation Regiment, 101st Airborne Division (Air Assault), who made it a priority to impart valuable lessons learned from the battalion's recent Central Command area of operation in support of Operations Inherent Resolve and Spartan Shield. The team members from the 1-101st Aviation Regiment will brief select members from the Directorate of Evaluation and Standardization, the Army Reprogramming Analysis Team, Aviation Survivability Development and Tactics Team, Project Manager for Aircraft Survivability Equipment, Survivability Branch, Doctrine Branch, Fires Center of Excellence, and Department of the Army Headquarters' Army Aviation Mission Survivability Officer in April 2023 in person and on a Secure Internet Protocol Router Network, or SIPR, video teleconference.

Overall, our lesson learned collection team visits have been successful, along with members from the Aviation Enterprise reaching out to us, which is always a positive. We look forward to hearing more from the force about the lessons learned from your recent deployments, warfighter exercises, FTXs, combat training centers, or other home station training events to place them into the Joint Lessons Learned Information System at https://www.jllis.mil in the form of white papers, after-action reviews, PowerPoint presentations, or articles for the *Aviation Digest*. The goal is to drive change from lessons learned with the possibility of updating doctrine, techniques, and training.

Survivability Branch (Branch Chief: CW5 Casey Peterson):

Survivability Branch welcomes the new UH-60 Aviation Mission Survivability (AMS) doctrine developer, CW3 Josh Baker. CW3 Baker is a unit trainer-evaluator coming from Honduras and is validating the courseware developed for the Aviation Mission Survivability Course (AMSOC) in the upcoming course redesign.

The Fort Novosel Helicopter Aircraft Survivability Equipment Training System, or FR-HASE-TS, has demonstrated the ability to embed software into improved data modem-equipped aircraft to stimulate aircraft survivability systems without any ASE installed. This congressionally funded program will bridge the home station training gaps for units needing to train against a realistically represented threat. The previous demonstration event was 24 February 2023.

Upon completion of the redesigned AMSOC, new Aviation Mission Survivability Officers (AMSOs) attending the course will receive unit trainer-evaluator training that provides accreditation of the AMS unit training module. This will provide an added capability to newly trained AMSOs and reduce unit resource consumption.

Gunnery Branch (Branch Chief: CW4 Aaron Assad):

The Aviation Master Gunnery Course wants to hear from you! Please submit any lessons learned from your recent Unit Gunnery Training Programs that get after large-scale combat operations. This is a pivotal time in Army Aviation where our future is undecided. Aviation has proven itself over the last 5 decades and needs to ensure our seat at the table for future operations. One way we can do this is to stay relevant by updating our training strategies and inserting ourselves as key players in the Joint world. If you are interested in attending the course, please reach out to aaron.w.assad.mil@army.mil

Additionally, keep your eye out for the new Aviation Gunnery Ballistics Handbook, which we will publish and host on the Gunnery Branch Non-Secure Internet Protocol Router Network Intelink in the very near future. This publication, though not formal doctrine, will re-codify the technical data that were lost when Training Circular (TC) 3-04.45, "Combat Aviation Gunnery," (2014) was converted into TC 3-04.3, "Aviation Gunnery," (2019).

Address Book:

Fort Novosel has been going through a SharePoint migration, so you may notice banners on legacy pages (those that start with "intranet.tradoc.army.mil") redirecting you to a new address. Some new addresses are already up and running. The DOTD public-facing SharePoint site main address is: https://armyeitaas.sharepoint-mil.us/sites/TR-ACOE-DOTDRUCKER

The legacy links will continue to be available through on/about this September in a read-only status before being taken down. We will work to have the new sites built by the time this issue is in your hands or on your monitor. If you experience issues accessing the site you need, at the point of need, please reach out to the respective branch's group email box, and we will assist you!

Aviation Leader Kit Bag: new address! https://armyeitaas.sharepoint-mil.us/sites/TR-ACoE-ALKB

Aviation Training Strategy: https://intranet.tradoc.army.mil/sites/usaacedotd/Shared%20Documents/FHP%20spreadsheets/Army%20Avn%20Tng%20Strategy%20Jan%202020.pdf

Aviation Branch Operations SOP, Annex A (Aviation Handbook), Annex B (Aviation Liaison Officer/Brigade Aviation Element Handbook), Annex C (Risk Common Operating Procedure), and Branch Maintenance SOP:
https://armyeitaas.sharepoint-mil.us/sites/TR-ACoE-DOTD/SitePages/Directorate-of-Training-and-Doctrine.aspx?csf=1&web=1&e=zabyEd

DOTD Public Site (legacy): https://intranet.tradoc.army.mil/sites/usaacedotd/

- Training: https://armyeitaas.sharepoint-mil.us/sites/TR-ACoE-DOTD/SitePages/Training.aspx?csf=1&web=1&e=c1FwlT
- DTAC: https://armyeitaas.sharepoint-mil.us/sites/TR-ACoE-DOTD/SitePages/DTAC.aspx?csf=1&web=1&e=7hbMcT

DOTD Education and Technology Branch *(questions regarding USAACE faculty and staff courses and/or the development, implementation, and administration of interactive multimedia instruction)*

- Branch Chief: Mr. Chuck Sampson at 334-255-0198 or charles.l.sampson10.civ@army.mil
- TRADOC SharePoint: armyeitaas.sharepoint-mil.us/sites/TR-ACoE-DOTD/SitePages/Educational%20Technologies%20Branch.aspx?csf=1&web=1&e=Z3Fc7M

DOTD Enlisted Training Branch *(questions regarding NCO professional military education [PME] and AVN Operations/Unmanned Aircraft Systems initial military training [IMT], ATC/UAS Warrant Officer Basic Course, and Aviation Life Support Equipment)*

- Branch Chief: Mr. Morris Anderson at 334-255-1909 or morris.anderson2.civ@army.mil
- TRADOC SharePoint: armyeitaas.sharepoint-mil.us/sites/TR-ACoE-DOTD/SitePages/Enlisted-Training-Branch.aspx?csf=1&web=1&e=g2Jcm9

DOTD Flight Training Branch *(questions regarding ATMs, Training Support Packages, SOPs)*

- Branch Chief: CW5 Steve Farabaugh at 334-255-0363 or steven.d.farabaugh.mil@army.mil
- TRADOC SharePoint: armyeitaas.sharepoint-mil.us/sites/TR-ACoE-DOTD/SitePages/Flight-Training-Branch.aspx?csf=1&web=1&e=F0v0Uz

DOTD Flight Training Integration Branch *(questions regarding aviation flight programs of instruction [POIs])*

- Branch Chief: Mr. Brian Stewmon at 334-255-3119 or william.b.stewmon.civ@army.mil
- TRADOC SharePoint: armyeitaas.sharepoint-mil.us/sites/TR-ACoE-DOTD/SitePages/Flight-Training-Integration-Branch.aspx?csf=1&web=1&e=IzdUmH

DOTD New Systems Integration Branch *(questions regarding new system training deliverables, e.g., system training plans)*

- Branch Chief: Ms. Kelly Raftery at 334-255-9668 or kelly.a.raftery.civ@army.mil
- TRADOC SharePoint: armyeitaas.sharepoint-mil.us/sites/TR-ACoE-DOTD/SitePages/New-Systems-Integration-Branch.aspx?csf=1&web=1&e=rjpaU0

DOTD Officer Training Branch *(Questions about officer and WO IMT, PME, and non-flight functional courses)*

- Branch Chief: Mr. Andrew Mars at 334-255-0433 or andrew.s.mars.civ@army.mil
- TRADOC SharePoint: https://armyeitaas.sharepoint-mil.us/sites/TR-ACoE-DOTD/SitePages/Officer-Training-Branch.aspx?csf=1&web=1&e=cEfDnt

DOTD Maintenance Training Branch *(questions about Joint Base Langley-Eustis/128th Aviation Brigade IMT, PME, and functional courses)*

- Branch Chief: Mr. Philip Bryson at 757-878-6176 or philip.e.bryson.civ@army.mil
- TRADOC SharePoint: https://armyeitaas.sharepoint-mil.us/sites/TR-ACoE-DOTD/SitePages/Maintenance-Training-Branch.aspx?csf=1&web=1&e=0PGyMu

Faculty & Staff Development Branch *(questions about Instructor and Developer training and certification)*

- Branch Chief: Dr. Christina Parker at 334-255-2124 or christina.k.parker2.civ@army.mil

DOTD Doctrine & Sustainment Branch *(questions regarding Field Manual [FM], ATPs, TCs)*

- Branch Chief: CPT Ashley Howard at 334-255-1796 or ashley.h.howard.mil@army.mil
- Group Mailbox: usarmy.novosel.avncoe.mbx.doctrine-branch@army.mil
- SharePoint: https://armyeitaas.sharepoint-mil.us/sites/TR-ACoE-DOTD/SitePages/Doctrine-Branch.aspx?csf=1&web=1&e=fFpkxS
- FMs, ATPs, and TCs are published by APD at https://armypubs.army.mil/
(select "Publications" then "Doctrine and Training" then select the desired category of publication)
- Living Doctrine FM 3-04 (2015) Archive: from the TRADOC SharePoint homepage, click "documents" on the left, then "ARCHIVE," then "Living Doctrine."

DOTD Tactics and Collective Training Branch *(questions regarding Lessons Learned, Unit Mission-Essential Task Lists/Mission-essential tasks/Training & Evaluation Outlines/Task Lists/CATS, or Aviation Digest)*

- Branch Chief: CPT John (Logan) Meehan at 334-255-1252 or john.l.meehan@army.mil
- Group Mailbox: usarmy.novosel.avncoe.mbx.dotd-dtac-division
- SharePoint: https://armyeitaas.sharepoint-mil.us/sites/TR-ACoE-DOTD/SitePages/DTAC.aspx?csf=1&web=1&e=7hbMcT
- *Aviation Digest* public site: https://home.army.mil/novosel/index.php/aviationdigest

DOTD Survivability Branch *(questions about all things AMS, Quick Reaction Tests, Computer-Based ASE Training, 2800/2900 Training Support Packages, Aviation Safety Equipment home-station training)*

- Branch Chief: CW5 Casey Peterson at 334-255-1853 or casey.w.peterson.mil@army.mil
- Group Mailbox: usarmy.novosel.avncoe.mbx.ams@army.mil
- Intelinks: Non-Secure Internet Protocol Router (NIPR): https://intelshare.intelink.gov/sites/army-ams/
Secure Internet Protocol Router (SIPR): https://intelshare.intelink.sgov.gov/sites.army-ams/

DOTD Gunnery Branch *(questions about all things gunnery, Master Gunner Course, ranges, Standards in Training Commission)*

- Branch Chief: CW4 Aaron Assad at 334-255-0843 or aaron.w.assad.mil@army.mil
- Group Mailbox: usarmy.novosel.avncoe.mbx.atzq-tdd-g@army.mil
- Intelinks: NIPR: https://intelshare.intelink.gov/sites/usaace/gb
SIPR: https://intelshare.intelink.sgov.gov/sites/GunneryBranch

Defining the Role of the Unmanned Aircraft Systems Operations Technician

Soldiers from Company C, 2D Battalion, Yorkshire Regiment, utilize unmanned aerial vehicles and variants of remote piloted vehicles in Project Convergence 2022. Photo courtesy of the Army Futures Command.

By CW5 Paul Van Loan

What is our job?

What role, exactly, do 150U unmanned aircraft systems (UAS) operations technicians perform for the Army? That is a common question that many in Army Aviation, including many 150Us, struggle to answer. Understanding and defining these roles can be challenging for leaders, 150Us, and subordinates because they aren't defined or specified in any of aviation's most-referenced doctrinal publications such as Field Manual (FM) 3-04, "Army Aviation;" Army Techniques Publication (ATP) 3-04.1, "Aviation Tactical Employment;"[1] or Training Circular (TC), "Commander's Aviation Training and Standardization Program" (Department of the Army [DA], 2020a; DA, 2020b; DA, 2022a). Failing to define and understand 150U roles and responsibilities could result in loss of confidence in 150Us, marginalization of UAS elements within companies or staffs, poor 150U professional development, and perception of irrelevance by UAS Soldiers.

A Soldier from the 720th Explosive Ordnance Disposal trains on the controls of a UAS. U.S. Army photo by SSG Anna Pongo.

While there are doctrinal sources that generally define 150U roles and responsibilities, it unfortunately takes some analysis to reach detailed understanding. Ultimately, UAS operations technicians have the broadest scope and highest responsibility of all aviation WO military occupational specialties (MOSs) at every grade plate. Given their responsibilities and force structure placement, 150Us fulfill critical planning and condition-setting roles that directly influence potential success in large-scale combat operations (LSCO).

Sources of doctrine

Smartbook DA Pamphlet (DA PAM) 600-3, "Aviation Branch"[2] is the pinnacle doctrinal publication that defines every aviation MOS and describes its generic career timelines, among other critical information (2021c). According to the U.S. Army Recruiting Command, the

[1]More information on this publication can be found via the Enterprise Access Management Service-Army (EAMS-A) with a valid common access card.
[2]More information on this publication can be found via milSuite with a valid common access card.

duty description for a 150U is to "identify the strategic and tactical employment strategies of UAS for all levels of command; supervise the enlisted management of the commander's aircrew training program; supervise UAS operations to include mission planning, payload operations, and launch recovery, aerial reconnaissance, target detection, and target engagement. Manage the safety, maintenance, and reporting programs; coordinate UAS airspace frequencies, and requirements to facilitate UAS operations. Manage UAS logistical requirements, and interface with appropriate UAS system managers. Act as the Army liaison for UAS missions, assist command staffs at all levels with analysis of UAS data to satisfy aggregate priority requirements, and serve as an advisor and subject matter expert for all UAS-related issues" (U.S. Army Recruiting Command, 2021). Successive paragraphs in DA PAM 600-3 break down these roles by grade and offer guidance on timing of professional military and civilian education and position goals. While this document provides a general overarching scope of responsibility, it is short of the mark on what is required of 150Us in terms of unit collective responsibilities and 150U-specific tasks.

Conducting a crosswalk of aviation staff and UAS unit structures, mission-essential task lists (METL), staff battle tasks, and individual critical task lists (ICTL) provide significantly more fidelity on 150U roles and responsibilities. By analyzing how each element or unit structure supports its mission and critical tasks, we can apply deductive reasoning to which performance steps belong to 150Us and trace them to specified ICTs and leadership responsibilities, such as unit training management outlined in FM 7-0, "Training" (DA, 2021b). This crosswalk also highlights the key responsibility shift that 150Us undergo as they transition from company- to field-grade billets.

Company Grade

Unmanned aircraft system units fall into two general structures based on airframes. Tactical UAS (TUAS) platoons employ the 2021 fielded Shadow RQ-7Bv2 Block III in air cavalry troops (ACTs) and the soon-to-be Future TUAS, which will replace the 2014 fielded RQ-7Bv2 Shadow in brigade combat teams (BCTs) (Director, Operational Test and Evaluation, n.d., pp. 107-108). Tactical UAS platoons are composed of a platoon leader, platoon sergeant, 150Us, aircraft operators, and aircraft repairers (United States Army Acquisition Support Center (USAASC) (USAASC, 2018). Gray Eagle companies are significantly more robust with leaders, 150Us, operators, and maintainers. By contrasting these formations against manned aviation companies that have at least two rated officers per aircraft to perform similar tasks, you can gain clarity on the responsibility that company-grade 150Us bear.

The Naval Facilities Engineering Systems Command (NFESC) Southeast's Contingency Engineering Response Team joins forces with the U.S. Army Corps of Engineers' Engineering Research Development Center for a storm damage simulation with a multi-rotor UAS on board Naval Air Station, Jacksonville, Florida. Photo by Jeffrey Hamlin, NFESC.

Both UAS unit structures facilitate execution of unit METLs and missions assigned in respective supported unit operations orders. Several mission-essential tasks (METS) are common to TUAS platoons, MQ-1 companies, ACTs, and attack companies. Personnel can access the Army's Combined Arms Training Strategies (CATS) portal for more specific information on task titles, task performance steps, and to compare different formation METLS.[3] Army aviation conducts reconnaissance is all echelons, to include UAS units (DA, 2020a, p. 3-16).

Given tactical aviation mission complexity and unit design, the bulk of plan, prepare, and assess performance steps within these METs fall to 150Us because they are beyond the ICTLs for each skill level of corresponding enlisted subordinates. Personnel can access ICTLs for UAS operators and repairers for each skill level via the Central Army Registry with a valid common access card. This is especially true in BCT platoons without the benefit of aviation branched commanders, platoon leaders, or aviators to lean on. Company-level 150Us must be prepared to conduct the following tactical functions on behalf of their respective echelons:

- Develop a reconnaissance plan that provides required information timely enough to inform commanders' decisions (DA, 2020a, p. 3-17)
- Integrate into reconnaissance mission planning with higher headquarters, supporting elements, and ground maneuver commander (DA, 2015b, p. 4-21)
- Integrate airspace coordination requirements with indirect fire support coordination measures (DA, 2015b, p. 4-21). Plan survivability of command posts and UAS sites (DA, 2020a, p. 2-19)
- Mitigate threats
- Integrate commanders' reconnaissance and security guidance (DA, 2015b, p. 4-6 to 4-21)

The 150U ICTL for WO1–CW2 refines 150U-centric performance steps into a list of activities that 150Us are responsible for and adds responsibilities that ensure units are prepared to execute their METL. Individuals can access the

[3]CATS are available via EAMS-A with a valid common access card.

Unmanned aircraft systems repairers perform routine maintenance on an RQ-7B V2 Shadow during Exercise Swift Response at the Krivolak Training Area, North Macedonia. U.S. Army photo by SSG Malcolm Cohens-Ashley.

150U-specific ICTLs and component tasks. Leaders can perform a METL crosswalk in accordance with FM 7-0 to identify tactical tasks that support unit METs. Remaining tasks support requirements to generate and maintain readiness sourced from Army Regulation (AR) 700-138, "Army Logistics Readiness and Sustainability;" AR 95-1, "Flight Regulations;" DA PAM 738-751, "Functional Users Manual for the Army Maintenance Management System-Aviation;" FM 7-0, TC 3-04.11; and TC 3-04.71, "Commander's Aviation Maintenance Training Program" (DA, 2018b; DA, 2018a; DA, 2014; DA, 2021b; DA, 2022a; DA, 2020c).

While subordinates execute many of these readiness programs, UAS operations technicians must actively provide support and oversight to noncommissioned officers who execute duties typically performed by field-grade WOs on the manned side of Army Aviation. For example, a SGT or SSG may perform standardization operator duties by managing a TUAS platoon aircrew training program on par with an AH-64E company aircrew training program managed by a CW3 standardization pilot, who benefits from greater institutional knowledge and professional mentorship. 150Us must serve as the bridge for such skill, knowledge, and experience gaps.

Field Grade

For 150Us, the company- to field-grade transition is somewhat unique in Army Aviation, with the exception being 150As (Air Traffic and Air Space Management Technicians). 150Us begin to fill staff roles that perform planning on a brigade or higher echelon scope. Structures of staff elements vary, but collective responsibilities remain consistent. These elements have an appropriate mixture of airspace managers, air mission survivability officers (AMSOs), aviation operations personnel, and aviation officer allocations.

Staff structures are located on FMSWeb (common access card enabled), and specific collective task lists are available via the Army Training Network, CATS, or the Central Army Registry (all common access card enabled).

Corps and divisions are responsible for integrating intelligence and synchronizing targeting processes to set conditions for operations in their respective areas of operations to ensure success (DA, 2021d, pp. 4-6, 5-6, 5-7). Brigade combat teams are responsible for information collection (IC), targeting, and conducting reconnaissance and surveillance to provide the BCT commander with freedom of maneuver, flexibility, and increased awareness to identify/develop opportunities (DA, 2021a, pp. 4-33, 4-40, 5-1). Intelligence preparation of the battlefield (IPB) and targeting

identify information requirements and facilitate conditions setting for each operational phase. Tactical UAS platoons, ACTs, and Gray Eagle companies are primary organic reconnaissance and security platforms for BCTs, divisions, and corps. Those echelons need UAS planners involved in relevant planning processes to missionize those requirements and conduct initial coordination for airspace to support routes and aerial combat positions, fire support deconfliction, suppression of enemy air defense effects against threats, and other risk mitigations. Examples of performance steps that require 150U involvement from multiple echelon tasks include:

- Integrate UAS into targeting processes and attend targeting working group

- Synchronize UAS launch and recovery sites and aerial observation posts with the airspace plan

- Synchronize UAS integration into collection, attack, and targeting plans

- Analyze risks to UAS assets and develop mitigations (DA, 2021d; DA 2021a)

Unmanned aircraft system operations technicians must be able to integrate and provide expertise in working groups. 150Us must be able to integrate UAS requirements from IC, targeting, and maneuver supporting efforts into doctrinal tasks and commander's guidance areas of the base order, Annex C (Operations), or Annex L (IC) (DA, 2013; DA, 2022b). Additionally, they must incorporate airspace requirements into Annex C, Appendix 10 (Airspace Control) and airspace plans submitted for inclusion into the airspace coordination order (DA, 2016, p. F-1). 150Us are the best positioned personnel to carry requirements from the cradle of identifying an information requirement in IPB, IC, targeting, or other step of the military decision making process (MDMP) through coordinating enabling fires or effects support and airspace, onto graduation to subordinate units through the orders process. It's not surprising that the 150U CW3-CW4 ICTL carries several tasks that support these tactical planning functions.

Just like company-grade 150Us, staff UAS personnel have a responsibility to generate and maintain readiness at echelon while providing oversight and assistance to subordinate units. 150Us must integrate UAS into collective training events and ensure that the subordinate UAS element's unit training plans meet unit and regulatory requirements and are adequately resourced. That includes ensuring planners incorporate UAS elements into fires coordination or command post exercises and that companies can incorporate small UAS (sUAS) into platoon and company live-fire events. Unmanned aircraft system technicians should also maintain visibility on subordinate unit equipment readiness as part of ongoing running estimates and assist other staff elements with prioritizing resources. Last, BCT 150Us are responsible to manage and support the sUAS programs for their subordinate headquarters by providing subordinate commanders with enabling training guidance and assistance with parts replacement from the sUAS program manager. The field-grade 150U ICTL provides tasks that support these processes.

Conclusions

Broadly speaking, UAS operations technicians are responsible for UAS-relevant readiness, planning, and collective task execution. Specifically, at company grades this means training their units, managing aircrew training program standardization, managing unit safety, managing unit logistics and maintenance, and conducting detailed mission planning. This planning includes requesting and integrating with air and ground survivability measures, appropriate airspace coordination measures, priority information requirements, targeting, and fire support. At field-grade levels, 150Us integrate UAS into staff processes across all warfighting functions and unit collective training, provide support to subordinate unit readiness, integrate UAS into IC and targeting, and plan overarching UAS survivability and airspace. The defining characteristic that separates company- and field-grade 150Us is the tactical operations order. Field-grade 150Us staff and prepare the orders that company-grade 150Us execute.

Soldiers conduct preflight inspections on the RQ-7 Shadow UAS at Fort Chaffee, Arkansas. U.S. Army photo by PFC Savannah Smith.

The current 150U training and performance climate presents two opportunities for Army Aviation to gain significant relative advantages in the human dimension with respect to LSCO. First, many 150U responsibilities directly translate or parallel manned aviation requirements. A properly developed field-grade UAS operations technician who can integrate unmanned aviation into IC, targeting, maneuver, and airspace plans can integrate all Army Aviation into those functions. This could significantly ease the planning and staff burden of subordinate combat aviation brigades (CABs) to buy their battalions time as they fight from the division or corps' initial IC plan through change of mission. This integration could also facilitate getting ahead of the joint targeting cycle in securing resources to increase aviation survivability in corps and division deep operations. However, current aviation-specific WO professional military education (PME) focuses entirely on preparing and developing aviators to operate at battalion and below where these functions do not exist.

Conventional force 150Us are also prohibited from attending training for AMSOs (taught at the Aviation Mission Survivability Course [AMSOC] at Fort Novosel, Alabama) but are responsible for incorporating Aviation Mission Survivability planning into collective tasks and ensuring their units are trained in accordance with TC 3-04.9, "Commander's Aviation Mission Survivability Program," (DA, 2015b). That training gap represents the second opportunity, which is 150U PME. Currently, 150Us receive no resident or distance learning training on their field-grade ICTL. Furthermore, current WO PME modernization plans do not address this training gap. Unmanned aircraft system operations technicians need their own MOS-specific PME course to prepare them for the transition from company to field grades. A 150U-specific WO advanced course needs to prepare them to conduct the MDMP at a brigade or higher level with emphasis on IPB, IC planning, targeting, and course of action development that also integrates airspace and survivability planning. The course must focus on how to plan a collective operation and how to prepare an order, as opposed to executing a specific element of that order. Such a course could provide secondary benefits to the rotary-wing aviator (153A) population, filling staff positions in BCTs, divisions, and corps that also don't receive adequate training or development.

Currently, 150Us can seek development from the Joint Firepower Course, Air Cavalry Leaders Course, Aviation Safety Course, Aviation Maintenance Officer Course, Air Defense Airspace Management/Brigade Aviation Element Course, Army Basic Space Course, and Echelons Above Brigade Airspace Course. Search the Army Training Requirements and Resource System, or ATRRS, for more information on these courses. Unfortunately, while these courses provide valuable information that 150Us can glean critical elements from, most of them cover the needs of other personnel and are not 150U specific.

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Biography:

CW5 Paul Van Loan is the Directorate of Training and Doctrine Flight Training Branch UAS Officer. He has previously served as a brigade UAS officer and acting brigade aviation officer for 1st Armored BCT, 1st Armored Division, Squadron UAS Officer, Fort Bliss, Texas, and TUAS platoon leader for the 4th Squadron, 6th Air Cavalry Regiment, 16th CAB, Joint Base-Lewis McChord, Washington. As an OH-58D pilot, he served as an AMSO with 4-6 ACS and Task Force 3-10 General Support Aviation Battalion, 10th CAB, Fort Drum, New York. He holds a BS in Business Administration. He has served as an observer-coach/trainer and response cell member for many brigade and higher echelon exercises. He has deployments to Iraq and Afghanistan and over 2000 rated hours.

Initial Thoughts on the Aviation Implications to Field Manual 3-0

By LTC Julie A. MacKnyght

By now, most readers are likely familiar with the news that Field Manual (FM) 3-0, "Operations," was updated and released this past October. Building on the previous 2017 version's discussion of near-peer threats and large-scale combat operations (LSCO), the 2022 FM 3-0 codifies Multidomain Operations (MDO)[1] as the Army's new operational concept. In its simplest definition, according to the FM 3-0 Writing Team Lead LTC Eric Gilge, MDO is the use of all domains in a combined arms fashion. Thus, the concept of combined arms, a bedrock for Army Aviation, is not going away, but rather increasing in importance and relevance.

> "***Combined arms*** *is the synchronized and simultaneous application of arms to achieve an effect greater than if each element was used separately or sequentially"*
> (DA, 2019b, p. 3-9).

So, for time-pressed aviators who don't have the white space to catch up on a 280-page document, what's the so-what for Army Aviation? This article addresses the Directorate of Training and Doctrine's (DOTD) initial thoughts, as presented by director COL Eric Puls at the annual Aviation Senior Leader Forum at Fort Rucker, (Novosel), Alabama, in January. However, to fully understand and conceptualize just how impactful the Army's new Operations doctrine is on the Aviation Branch, we need a robust, non-attributional, intellectually curious, disagreements-welcome professional dialogue. Please send your thoughts to the *Digest*[2] whether as an article, letter to the editor, or if in doubt about how to best express your ideas, just send us a plaintext email, and we'll figure it out!

> ***"Multidomain Operations*** **are the combined arms employment of joint and Army capabilities to create and exploit relative advantages to achieve objectives, defeat enemy forces, and consolidate gains on behalf of joint force commanders" (Department of the Army [DA], 2022, p. 1-2).**

The Big Changes

For an in-depth FM 3-0 education, the Combined Arms Center (CAC) has resources for all types of learning styles; websites and a wealth of information are listed at the end of this article. We'll cover the big-picture changes here; however, this is not a comprehensive list of all updates.

New Operational Concept:

Unified Land Operations, or ULO, is replaced with multidomain operations, not-the-MDO (except I am taking liberties with using the acronym to save space in this article—see footnote number 1). While 2017's FM 3-0 stressed how we must win in a complex world by adapting faster than our adversaries to achieve *positions* of relative advantage,[3] the 2022 version focuses on decision dominance and other human and informational factors to accrue relative advantages–especially critical when fighting outnumbered and/or isolated.

> ***Maneuver:***
> "movement in conjunction with fires"
> (DA, 2019b, p. 4-5) (Army definition).

Operating in multiple domains is not new for aviation; as MG McCurry, CG of the U.S. Army Aviation Center of Excellence (USAACE) quips, "Army Aviation: the original cross-domain solution since 1956." We will often be a requested capability, mostly by the ground forces, but in order to be successful (especially in deep operations), we will also need to request higher echelon and/or joint capabilities to support our missions. Additionally, aviation, as a valuable member of the combined arms team, must be employed as a maneuver force rather than simply an enabler.

This means our liaison officers (LNOs), commanders, and pilots-in-command must be fluent not only in the language of Army maneuver to have a seat at the brigade combat team, division, or corps table, but joint as well. As DOTD integrates FM 3-0 (and soon-to-be-published FM 3-90, "Tactics") doctrine into FM 3-04, "Army Aviation" and Army Techniques

[1] The acronym that's not an acronym: neither LSCO nor MDO are Combined Arms Center (CAC)-approved acronyms, and there are no plans to codify them as such in the future. However, the cat has been out of the bag long enough in the common vernacular of professional dialogue and PowerPoint rangering, let alone senior leader messaging, that they are commonly recognized and used across the force. I will use them in this article, as I do in my teaching, to save space/time. Additionally, CAC stresses that multidomain is one word and not hyphenated like it was in the original U.S. Army Training and Doctrine Command concept from 06 December 2018, Training and Doctrine Command Pamphlet 525-3-1, "The U.S. Army Multi-Domain Operations 2028," https://adminpubs.tradoc.army.mil/pamphlets/TP525-3-1.pdf

[2] The *Aviation Digest* team welcomes you to contact them at usarmy.novosel.avncoe.mbx.aviation-digest@army.mil. You can also view/download the current issue, view archive issues, editorial guidelines, (also included on p. 3 of each issue) deadline dates, and subscription link.

[3] ***position of relative advantage:*** A location or the establishment of a favorable condition within the area of operations (AO) that provides the commander with temporary freedom of action to enhance combat power over an enemy or influence the enemy to accept risk and move to a position of disadvantage (originally codified by the now obsolete Army Doctrine Reference Publication 3-0). Currently, Army Doctrine Publication (ADP) 3-0, "Operations," (2019b) is the proponent for this term, which is only used four times in the 2022 FM 3-0 (two of those in the definition of the Movement and Maneuver Warfighting Function) vs. 19 in the 2017 version. **A *relative advantage* is a location or condition, in any domain, relative to an adversary or enemy that provides an opportunity to progress towards or achieve an objective (A new term created by FM 3-0, 2022, p. 1-3).**

Publication 3-04.1, "Aviation Tactical Employment,"[4] we are taking a hard look at terms that, though they may be near and dear to many aviators, could instead be replaced with the appropriate joint or Army terms to flatten communications and enhance understanding. The more our language and understanding nest with maneuver doctrine, the closer we will be to our CG's vision[5] of doctrinally and tactically literate aviation leaders who truly understand the scheme of ground maneuver, fires, intelligence, protection, and sustainment, not just the aviation portion.

> "**Air-Ground Operations (AGO) are the simultaneous** or synchronized employment of ground forces with aviation maneuver and fires to seize, retain, and exploit the initiative" (DA, 2020, p. 1-1).

Because MDO stresses the combined arms employment of both Army and joint capabilities, we need to be proactive in finding ways to train with our sister services to build joint experience in our staffs and aircrews. Since unit training relationships built between individuals are temporal based on personnel movement cycles and changes of command, successful interoperability endeavors should be codified in unit Operations Orders, Training Guidance, and/or Memoranda of Agreement/Understanding so they can continue growing vs. having to be continually rehashed.

New Strategic Contexts: The Army strategic contexts described in the new FM 3-0 generally correlate to the joint competition continuum (as opposed to the 2017 FM 3-0 discussing the conflict continuum). Paragraph 1-67 states, "Army doctrine adds crisis to account for the unique challenges facing ground forces that often characterize transition between competition and armed conflict" (2022, p. 1-14) (Figure 1). For those fans of the range of military operations, it is still alive and well as a complement to the strategic contexts. One thing to remember is that the Army, and the joint force in general, is always conducting MDO whether we are in competition, crisis, or armed *conflict*.[6]

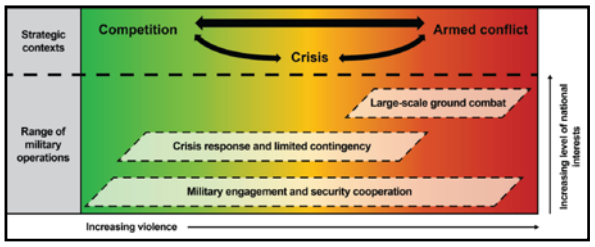

Figure 1. Army strategic contexts and operational categories (DA, 2022, p. 1-14).

> "An ***operational environment*** [emphasis added] is the aggregate of the conditions, circumstances, and influences that affect the employment of capabilities and bear on the decisions of the commander (JP 3-0)." (Office of the Chairman of the Joint Chiefs of Staff, 2022a, p. GL-13; DA, 2022, p. 1-16). For Army forces, ... [it] "includes portions of the land, maritime, air, space, and cyberspace domains understood through three dimensions (human, physical, and information) ... Cyberspace, a manmade network of networks, transits and connects the other domains as represented by the dots" (Figure 2) (DA, 2022, p. 1-16).

For Army Aviation, that means our assets are in high demand no matter where we are in the strategic context; that is nothing new if one looks at our combat aviation brigade commitment rates over the past 20 years. Within any of these contexts, we enable multiple defeat *mechanisms*[7] *simultaneously*, with our speed, range, and lethality creating opportunities for exploitation by the rest of the combined arms team. We expect the doctrinal concept of Air-Ground Operations to remain a bedrock of our contribution to the division/corps scheme of maneuver and our contribution to the tenet of convergence (more on that in a future article).

We must also understand that as the stakes get higher in LSCO, LNOs become ever more critical. A single LNO, either well or misplaced, can have strategic-level consequences (good or bad) in any one of these contexts. Though we all intellectually understand that our LNOs need to be our best, that it should hurt to lose them, as a culture it is imperative that we actually start living that. Unlike in the counterinsurgency (COIN) fight, LNOs in LSCO likely will be a more temporal assignment, as opposed to a permanent attachment. Envision sending your aviation mission survivability officer (AMSO) or best attack/lift planner, for example, to a sister or higher echelon for a specific mission of a specific duration. Remember that our LNOs are Aviation Branch ambassadors and will make or break the maneuver commander's opinion of what aviation can contribute to the fight.

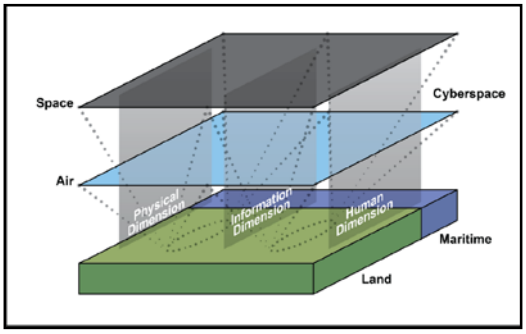

Figure 2. Domains and dimensions of an operational environment (DA, 2022, p. 1-17).

New Operational Environment: The 2017 FM 3-0 addressed many of the concepts codified in the new version, but it was in a much more convoluted and confusing manner. The new construct is much easier to digest and remember, though the downside is the joint community still

[4] This publication is available via the Army Publishing Directorate, https://armypubs.army.mil, with a valid common access card.

[5] An aviation CPT, MAJ, or field-grade WO walks into the division main or tactical command post, converses with the appropriate people, asks the right questions, collects the right information and graphics, and walks out to go plan and execute the mission. The division staff wonders who that rockstar was before realizing it was their friendly neighborhood aviator! They couldn't tell it wasn't an officer from infantry/armor/fires, so adept at doctrinal and tactical concepts across the warfighting functions our aviator was.

[6] "Multidomain operations are the Army's contribution to joint campaigns, spanning the competition continuum. Below the threshold of armed conflict, multidomain operations are how Army forces accrue advantages and demonstrate readiness for conflict, deterring adversaries while assuring allies and partners. During conflict, they are how Army forces close with and destroy the enemy, defeat enemy formations, seize critical terrain, and control populations and resources to deliver sustainable political outcomes" (DA, 2022, p. 1-2).

[7] Field Manual 3-0 describes defeat mechanisms used by division and higher commanders to visualize and describe how they plan to defeat enemy forces. They are: "destroy, dislocate, disintegrate, and isolate" (p. 3-19). Brigade and below "commanders translate defeat mechanisms into tactics," described in the concept of operations (p. 6-21).

uses the more complicated construct.[8] The CAC emphasizes that "Army forces mainly operate through the physical dimension, influence through the information dimension and produce victory in the human dimension" (Brito et al., 2022).

Army Aviation is a part of the land force that operates in the lower tier of the air domain. The two domains relate in an example of domain interdependence: Control of the air gives advantages for attacking at long ranges, but air assets require control of the land for secure airfields, maintenance sites, or forward arming and refueling points (FARPs). We also rely heavily on capabilities that reside within space and cyberspace, even more so as our platform technology marches forward. Imagine how much more difficult our missions become when we lose satellite capability for communications, targeting, or navigation. How much does our sustainment architecture rely on network connectivity?

Considerations that impact aviation within the land and maritime domains include how we sequence and position our logistical and communication nodes, and how we are impacted by division and corps land management. While FARPs are probably the first things that come to most of our minds, maintenance, logistical, and retransmission sites are also critical. Against a peer threat, accounting for being under constant observation with minimal sanctuary, we must assume that any land that would be ideally suited for such nodes is easily targeted by the enemy.

An ***area of operations*** is "an operational area defined by a commander for the land or maritime force commander to accomplish their missions and protect their forces" (DA, 2022, Glossary 3).

Within the air domain, airspace is becoming increasingly congested. No longer can we rely on simple measures like the coordinating altitude to maintain freedom of maneuver; even when we stay low, we're now competing with friendly and enemy unmanned aircraft systems (UAS) growing ever smaller and more portable. 'Big sky, little bullet' doesn't work in a swarm, and as anyone who's ever hit a bird knows, even striking something small, like a group 1 or 2 UAS, can have catastrophic consequences for manned platforms. Additionally, friend or foe identification becomes more critical under MDO, as enemy UAS will have our ground forces watching the skies, no longer assuming everything flying is friendly. Our air and missile defense will be on everyone's radar (pun intended) much more so in LSCO than it ever was in COIN. When was the last time most of us had to worry about things like passage points or time on target for returning through friendly lines *after* the mission?

The ***operational framework*** is "a cognitive tool used to assist commanders and staffs in clearly visualizing and describing the application of combat power in time, space, purpose, and resources in the concept of operations (ADP 1-01)" (DA, 2022,Glossary 10).

New Operational Framework:

The new FM 3-0 returns to an intuitive breakout of assigned operational areas into deep, close, and rear (which in turn houses the support area). The consolidation area is overwritten; however, the concept of consolidating gains is heavily emphasized as a continuous activity throughout MDO in all strategic contexts.

The framework focuses on three models: *assigned areas* (of which the area of operations, or AO, is the primary one most of think of, but it also includes zones and sectors), *deep/close/rear operations*, and *main effort/supporting effort/reserve*. Those who loved the decisive/shaping/sustaining operations model will be disappointed to see it is no longer codified in doctrine.

Of note for aviators are two of the nine listed responsibilities for commanders assigned an AO: personnel recovery (PR) and airspace management. When facing entities that still consider PR the primary purview of aviators, kindly point out that all commanders with an AO are responsible for it within their boundaries—and planning for it is certainly not the sole responsibility of the AMSO, either! Such commanders are also all responsible for airspace management (not control).[9] Field Manual 3-0 added a note (page 18) to clarify confusion on the matter.

Army Aviation can rapidly operate across the rear, close, and deep areas of multiple echelons (Figure 3). For deep operations, it is the corps' responsibility to resource us with the required Army and joint enablers. Aviation, as a rule, must be integrated into all division warfighting function schemes, not just the scheme of maneuver. Spanning the schemes of sustainment and protection, for example, we can't afford to place a FARP in an area that was recently a position area for

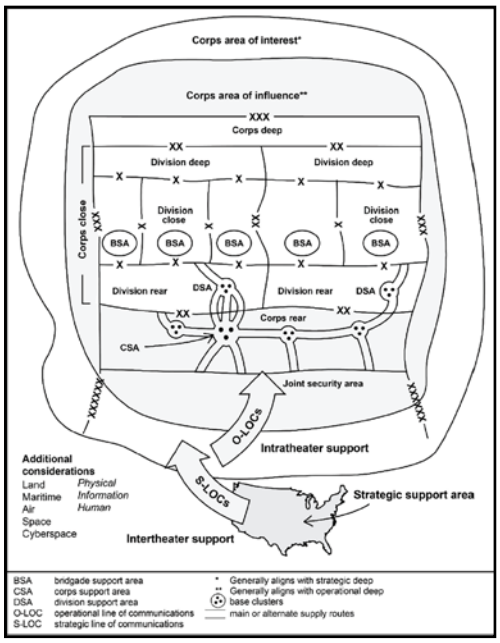

Figure 3. Notional corps deep, close, and rear areas with contiguous divisions (DA, 2022, p. 3-28).

8 Field Manual 3-0, p. 1-17, goes with Figure 2: Note. Joint doctrine describes the components of an operational environment as the physical areas of the land, maritime, air, and space domains; the information environment (which includes cyberspace); the electromagnetic spectrum … with physical, informational, and human aspects" (p. 1-21). (See JP [Joint Publication] 2-0 and JP 5-0 [located at the common access card enabled site: https://jdeis.js.mil/jdeis/] for more information on describing and analyzing an operational environment from a joint perspective).

9 There are misconceptions within the Army that commanders control the airspace within their AO; however, that airspace is owned by the joint force commander, who appoints the Airspace Control Authority, who develops an Airspace Control Plan (JP 3-52, p. vii). Even with the definitions used herein, it can be tricky to wrap one's mind around the difference between Airspace Control vs. Management. Most of us should be familiar with the difference between positive and procedural control. This note from JP 3-52 [page I-5, emphasis added] helps a bit: "Procedural control provides effective airspace management in areas that lack positive control capability." Joint Publication 3-52 also notes, [page I-6] "Emphasis should be placed on simple, flexible airspace management procedures that require minimal communications" and [p. IV_9] "Integration of fires and aircraft is a critical part of airspace management."

So perhaps a simple way to describe the nuances: Airspace Control is the authority and decisionmaking regarding airspace, whereas management is the technique(s) used to exercise and enforce that authority. As an example: Airspace Control tells the aviator to use a specific corridor of specific dimensions, and Airspace Management is whether we're directed through (positive control) or self-directed (procedural), and how much we're talking on the radio to do so. Either way, we're using the corridor we're supposed to be, regardless of how we are managed.

artillery and is thus already targeted by the enemy! Therefore, planning becomes more detailed with enemy focus and analysis trumping convenience. Participating in all the division working groups is even more crucial in LSCO than it was in COIN and synchronizing all the warfighting functions takes us back to that conversation about LNOs and how important they are.

> ***Note***. A land AO by definition does not include a volume of airspace to control. Airspace control authorities delegate airspace control to Army commanders based on the situation. All commanders must be prepared to enable or coordinate airspace management. (See JP 3-52 and FM 3-52 for more information on airspace control.)[10]

Aviation deep operations will primarily be shaping for either division or corps, whereas our close operations enhance the survivability of the combined arms team. We must not allow ourselves to get into a one-on-one survivability discussion, where ground forces may try to argue that a helicopter is no match for enemy air defense in a peer fight. It is aviation capabilities in the aggregate, enabled through MDO by higher echelon and joint assets, that enhance land force survivability! Additionally, our rear operations can greatly enhance the division's security and sustainment operations.

Airspace Management: "The planning, coordination, integration, and regulation of airspace by airspace control elements in support of airspace control" (p. GL-4). Available at common access card enabled site: https://jdeis.js.mil/jdeis/index.jsp

Another implication for our branch to work through under MDO is how far back from the forward line of troops should we position our battalion and brigade tactical assembly areas, and how dispersed should they be? What about our aviation support battalion? Where do we expect to perform major scheduled, let alone unscheduled, maintenance? How frequently are we really going to jump, as compared to ground maneuver battalions and brigades, considering the additional infrastructure aviation relies on? Though helicopters don't require improved airfields, our UAS platforms need specific amounts of improved surfaces for launch and recovery, to say our fuel demands are large would be an understatement, and our current and projected modified tables of organization and equipment are insufficient for organic protection. These are problems we need to work out in the short term, since doctrine covers current capabilities, not concepts (such as future vertical lift or launched effects).[11]

From the newly published JP 3-52, 2022b, "Joint Airspace Control" "Airspace Control: the exercise of delegated authority over designated airspace and users through control procedures and coordination measures (CMs) to maximize operational effectiveness" (p. GL-4). Available at common access card enabled site: https://jdeis.js.mil/jdeis/index.jsp

New Tenets and Imperatives: The four tenets—agility, convergence, endurance, and depth—fall into the "should" category; whereas the nine imperatives fall under the "must" category. The initial aviation implication is the core competency–tenet/imperative crosswalk depicted in Figure 4.

Agility refers not just to physical maneuver, but also the ability to task organize more rapidly (something aviation forces have gotten used to), make decisions faster than the enemy can (links to the imperative of decision dominance), and execute smoother, more rapid transitions.

Convergence, in a nutshell, is the outcome of *multiple actions* across *multiple echelons* from *multiple domains against multiple decisive points*. In MDO, where we seek often-incremental relative advantages, a single decisive point is not enough to achieve our objectives. Convergence also reinforces the concept of domain interdependence: The better we understand the relationships among capabilities across all domains, the better we can combine them in "surprising, effective tactics that accrue advantages over time" (DA, 2022, p. 3-3). As the division's most maneuverable element, aviation can expect to play a vital role in convergence.

Endurance is more than just sustainment and ensuring a unit doesn't culminate (though aviation can certainly help with that problem!). It also includes protection considerations to ensure enough combat power is preserved for subsequent main efforts. Though not explicitly stated in FM 3-0, endurance also ties in with the ninth imperative, *understanding and managing the effects of operations on units and leaders* (p. 3-8). This is where the Aviation Branch has an advantage in its years of understanding the risks associated with acute and chronic fatigue and a culture of fighter management.

Whereas endurance focuses on friendly combat power, depth orients on enemy dispositions across all domains. It is described in terms of operational reach, an area where aviation certainly contributes to the combined arms team! Whether the division or corps commander chooses to exercise our reconnaissance, attack, air assault, or a combination thereof our

[10] "See JP 3-52 [common access card enabled site: https://jdeis.js.mil/jdeis/new_pubs/jp3_52.pdf] and FM 3-52 [located at https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/FM%203-52%20FINAL%20WEB.pdf] for more information on airspace control" (DA, 2022, p. 3-24).

[11] Army Doctrine Publication 1-01, "Doctrine Primer," para. 1-5 provides the Army definition of doctrine: "fundamental principles, with supporting tactics, techniques, procedures, and terms and symbols, used for the conduct of operations and as a guide for actions of operating forces, and elements of the institutional force that directly support operations in support of national objectives."

Paragraph 1-7 describes concepts as, "ideas for a significant change based on proposed new approaches to the conduct of operations or technology." They "propose significantly different methods the force might use in the future, usually 5 to 15 years hence. The Army evaluates concepts through a series of tests. Over time, the Army discards some concepts and keeps others." Most importantly, "leaders and Soldiers should avoid confusing concepts with doctrine. Concepts are proposals and the basis for experiments on conducting future operations whereas doctrine addresses how Army forces actually operate today."

core competencies, we amplify depth for the ground forces.

Other Changes

Contested Deployments: The 2022 FM 3-0 adds an appendix on contested deployments, acknowledging that peer threats are already influencing the continental United States within the cyber domain and through the information dimension in the context of competition. Paragraph C-5 states, "Adversaries take steps to deliberately obscure the source of these activities, and they take full advantage of the ambiguity provided by operating below the threshold of armed response." Should we move to crisis or conflict, we can expect our adversaries turned enemies to employ more overt means across even more domains and dimensions.

> "***Operational reach***: the distance and duration across which a force can successfully employ military capabilities (JP 3-0)" (Office of the Chairman of the Joint Chiefs of Staff, 2022a; 2022c).

Considering how much of the critical infrastructure needed to deploy is civilian owned/managed (e.g., rails, ports), this is a significant vulnerability. Army Aviation relies heavily on contractors to get us from fort to port, most notably in the sustainment warfighting function. Consider how mobile, with only organic assets, any of our companies are, let alone battalions (let alone the aviation support battalion)—we contest ourselves without any aid from the enemy! Though we can rather easily, all things considered, self-deploy our aerial combat power to the port of embarkation, we still rely on boats or strategic airlift to move us to the port of debarkation (POD). And that doesn't help us for all of our ground equipment and rolling stock, which even without an adversary or enemy interfering, would hit enough friction on bridge load capacity and congested roads and rails. Then, we face the same challenges moving from the POD to the RSOI (reception, staging, onward movement, and integration of forces) sites. Major aviation implications include:

> "***Adversary:*** a party acknowledged as potentially hostile to a friendly party and against which the use of force may be envisaged" (Office of the Chairman of the Joint Chiefs of Staff, 2022a, p. GL-7).

- How do we balance home station capacity/operations to support ground force deployment with our capacity that needs to get to theater?
- Who provides security at civil and military logistical nodes?
- Can we effectively navigate cross-country without global positioning systems? How would we operate in instrument meteorological conditions if the civil air traffic control network were attacked?
- How do we sequence our aircraft/assets to each port, across multiple avenues of approach using diverse fuel stop locations? Do we have contingencies to address civilian aviation fuel shortages?

> ***Enemy:*** "a party identified as hostile against which the use of force is authorized … also called a combatant and is treated as such under the law of war" (DA, 2019b, p. 1-3).

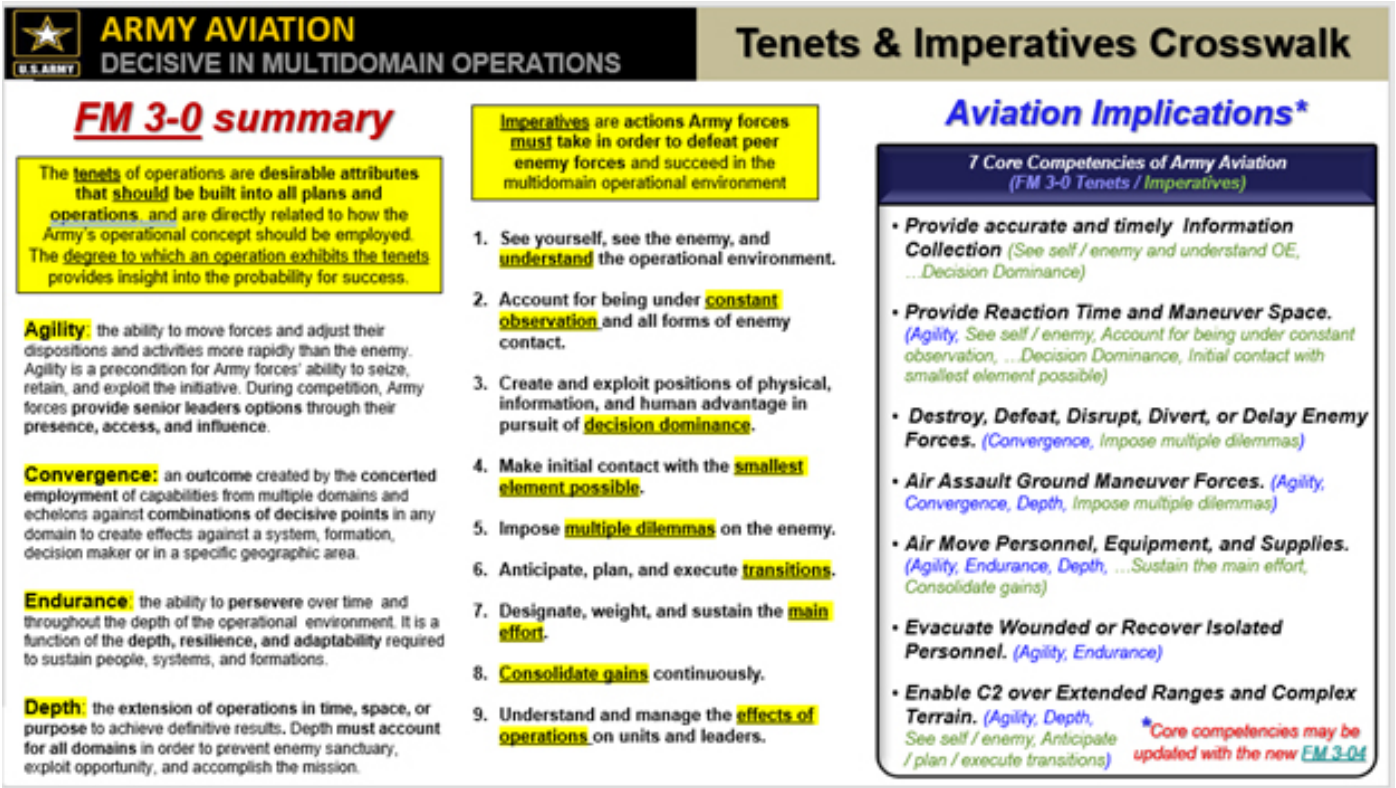

Figure 4. Field manual 3-0 tenets & imperatives crosswalk (Combined Arms Center, 2023; MacKnyght, 2023).[12]

[12] More information on these resources may be found in the FM 3-0 Outreach section of this article.

- How many options do we need per port of where to physically prepare aircraft for shipment/build them up upon arrival?

- How do we sequence our aircraft/equipment by platform/quantity across simultaneous strategic airlift, sealift, and self-deployment?

- How much do we rely on civilian capabilities, such as materials handling equipment, stevedores, rail en route and at port, etc., and do we have priority when we need it?

- Will we face eroded public and civil support due to enemy information operations?

Maritime Environments: Though a domain in its own right, FM 3-0 points out that "in almost all cases it is land that makes a maritime area important" (DA, 2022, p. 7-1). Aviation implications of operating in a maritime environment are most notably the increase in complexity of sustainment planning: How do we position maintenance assets? Can we adapt FARP operations to include Fat Hawk/Cow[13] as primary means?

Prior to arriving, overwater training at home station will be critical. This means addressing equipment availability, crew currency, and increased commander dialogue regarding risk tolerance to allow such training. Additionally, multi-service multidomain training will become ever more critical. Examples include the Naval Air Tasking Order/Airspace Control Order, joint logistics and basing, and even things so simple as ensuring we can effectively talk with each other, be it the physical dimension of technical radio compatibility or human dimension of speaking the same doctrinal language.

Forms of Contact Update: The new FM 3-0 adds Influence to make it nine forms of contact and notes that in all contexts, "Army forces are typically in continuous visual, electromagnetic, and influence contact with adversaries" (DA, 2022, p. 3-11). This aligns with the second imperative, "Account for being under constant observation and all forms of enemy contact" (DA, 2022, p. 3-8).

> "**Influence** [emphasis added]: interactions through the information dimension intended to shape the perceptions, behaviors, and decision making of people relative to a policy or military objective (including through social media, telecommunications, human interaction, and other forms of communication)" (DA, 2022, p. 3-11).

Mission Variables Update: We're all well-versed in the mnemonic METT-TC, and those of us who've been in the Army long enough (or have served with the U. S. Marine Corps) may even remember METT-T. The new FM 3-0 modifies this well-worn mission variables acronym: it is now METT-TC(I). The "I" stands for informational considerations, in line with information being one of the three dimensions affecting all five domains. Why the parentheses, you ask?

> *Note*. METT-TC (I) represents the mission variables leaders use to analyze and understand a situation in relationship to the unit's mission. The first six variables are not new. However, the pervasiveness of information and its applicability in different military contexts requires leaders to continuously assess its various aspects during operations. Because of this, "I" has been added to the METT-TC mnemonic. Information considerations are expressed as a parenthetical variable because they are not an independent consideration, but an important component of each variable of METT-TC that leaders must understand when developing understanding of a situation.
>
> (DA, 2022, p. 1-23).

Since we're living in a no-growth Army, we could not buy a vowel, so the E was harvested from CBRNE in exchange; just use CBRN when talking about chemical, biological, radiological, and nuclear operations! All joking aside, CBRNE still has a home in ATP 3-37.11, "Chemical, Biological, Radiological, Nuclear, and Explosives Command (CBRNE Command)" (DA, 2018),[14] but should not be a term we use in the aviation or maneuver world.

Greater Emphasis on Defeating in Detail: Because peer threats are harder to attack all at once, we must find their weaknesses and exploit them, whether our operations focus on a specific enemy function, capability, echelon or unit, domain, or dimension. When "enemy vulnerabilities and friendly advantages intersect at a single place and time [in a way] that is decisive to mission accomplishment" (DA, 2022, p. 3-19), we have identified a decisive point. Army Aviation can both help identify and exploit decisive points, presenting the ground force commander multiple options for imposing multiple dilemmas to the enemy. The new FM 3-0 also modifies several of the defeat mechanisms (destroy, dislocate, disintegrate, and isolate); we'll expound on those in the next *Aviation Digest*.

Conclusion

Army Doctrine Publication 1-01, "Doctrine Primer," states it takes up to 5 years for doctrinal change to permeate the force (DA, 2019a, p. 2-6), and FM 3-0 was republished 5 years to the month after the most previous version. However, considering the depth and breadth of outreach materials CAC has provided (listed next), that time should be significantly cut, as it's never been easier to digest new doctrine. The new FM 3-0 builds upon concepts familiar to the old but in a much more user-friendly manner (it doesn't hurt that the new one is almost 90 pages shorter!). The aviation

[13] Aerial emplaced FARPs. From ATP 3-04.17, "Techniques for FARPs" (2018), "The CH-47's extended range fuel system (ERFS) II, also known as Fat Cow, is a modular, interconnectable system. The primary mission is to provide a safe and convenient means of increasing the range and endurance of the CH-47D helicopter to include—

- Worldwide self-deployment capability.
- Transporting fuel for forward area refueling operations" (p. 2-20).

Paragraph 2-61 continues, "Similar refueling operations can be accomplished with the UH-60 [Fat Hawk]. The [Advanced Aviation Forward Refueling System] AAFARS is carried inside the aircraft while fuel is extracted from the aircraft's external or internal fuel tanks" (p. 2-21).

[14] A fun little rabbit hole: "*Chemical, biological, radiological, nuclear, and explosives are* components that are threats or potential hazards with adverse effects in the operational environment. The explosive component incorporates the full range of explosive ordnance hazards (including IED [improvised explosive device] and WMD [weapons of mass destruction] threats)" (DA, 2018, p. 1-1). The CBRNE Command was activated during COIN operations in 2004 to meet the requirement for a WMD elimination program. Thus, as an expeditionary command, it managed CBRN and explosive ordnance disposal assets, hence CBRNE with the "E." The rest of Army, multi-service, and joint doctrine we could find use CBRN, and have for quite some time. So, if you're still using CBRNE in your common vernacular, you can revert to CBRN!

considerations discussed in this article will hopefully serve as professional conversation-starters, so please, continue the dialogue and write to the *Digest*! Or at least, pull up the NOTAMs section in the front and write to the Doctrine or Tactics Branch directly; we are always looking for feedback from the field.

FM 3-0 Outreach:

- https://usacac.army.mil/organizations/mccoe/FM3-0Resources : scroll down for a hyperlinked list of FM 3-0-specific **Doctrine Digest YouTube series** (The Combined Arms Doctrine Directorate channel is: youtube.com/@usacadd).

- **Breaking Doctrine podcasts** (available on Apple or Google podcasts):

o 15SEP's episode (#34) discusses the new "(I)" in mission, enemy, terrain, troops, time, and civilians, or METT-TC(I).

o #36, 15DEC: FM 3-0 Writing Team Talks

o #37, 15JAN: FM 3-0 Implementation

o Apple: Breaking Doctrine on Apple Podcasts [https://podcasts.apple.com/us/podcast/breaking-doctrine/id1522992251]

o Google: Breaking Doctrine (google.com) [https://podcasts.google.com/feed/aHR0cHM6Ly9wb2RjYXN-0LmJsb2IuY29yZS51c2d vdmNsb-3VkYXBpLm5ldC9jYWRkL0JyZW-FraW5nX0RvY3RyaW5lLnhtbA]

- **Three published articles on FM 3-0:**

o https://www.ausa.org/articles/world-changes-updated-field-manual-focuses-multi-domain-operations

o https://www.armyupress.army.mil/journals/military-review/online-exclusive/2022-ole/musicians-of-mars-in-multiple-domains/

o https://mwi.usma.edu/an-army-at-sea-why-the-new-fm-3-0s-emphasis-on-maritime-operations-is-so-important/

Defeat in Detail: "Is concentrating overwhelming combat power against separate parts of a force rather than defeating the entire force at once (ADP 3-90)" (DA, 2022, p. 3-19).

decisive point: "Key terrain, key event, critical factor, or function that, when acted upon, enables commanders to gain a marked advantage over an enemy or contribute materially to achieving success. (JP 5-0)" (DA, 2022, p. Glossary 5).

- **Field Manual 3-0 video:** Following an introduction by CAC and Fort Leavenworth, Kansas, CG, LTG Milford H. Beagle, Jr., and Mr. Rich Creed, Director, Combined Arms Doctrine Directorate, explain the new FM 3-0 and the Army's operational concept, MDO. This feature-length video delivers the same brief given by mobile training teams to familiarize Army forces with the new manual. View on YouTube at https://www.youtube.com/watch?v=QFYjO3XHd3Q or the Central Army Registry at https://rdl.train.army.mil/catalog-ws/view/100.ATSC/75C1AA17-7392-40DC-9503-E5DC3BBF1B12-1675177928721/FM_3-0_Operations_MTT_Video.mp4

Above the Best!

Biography:

LTC Julie MacKnyght is the chief of the merged Doctrine and Tactics Divisions (DTAC), DOTD, and is thankful for all the smart people who keep everything moving forward on a daily basis. Her previous experience spans three company commands (Headquarters and Headquarters Troop (HHT), Task Force ODIN, Iraq; HHT, 21st Cavalry Brigade, Fort Hood, Texas; Company A, 1st Battalion, 145th Aviation Regiment, Fort Rucker [Novosel], Alabama), two battalion executive officer tours (The 1st Air Cavalry Brigade's 3D Battalion, 227th Aviation Regiment and 615th Aviation Support Battalion, Fort Hood, Texas, and Illesheim, Germany), and duties as the chief, USAACE Commander's Initiative Group. She has served as a pilot-in-command in the OH-58D, LUH-72A, and UH-60M, and her daughters (ages 1, 3, and 7) keep life supremely interesting!

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Five Words:

Leadership, the UH-1 Air Ambulance, and the Transformation of Army Aeromedical Evacuation in the Vietnam War

The views expressed are those of the author and do not reflect the policy or position of the Defense Health Agency, the Department of Defense, or the United States Government

By COL Donald E. Hall (Ret.)

Army medical evacuation transformed on 1 July 1964 in a field South of Vihn Long in the Republic of Vietnam (Vietnam Helicopter Pilots Association, 2021a). MAJ Charles L. Kelly, commanding officer of the sole aeromedical evacuation unit in Vietnam—the 57th Medical Detachment (helicopter ambulance) headquartered in Saigon but operating out of Soc Trang with the unit's Detachment A—is called to pick up a wounded American advisor.

Kelly leaves behind his flight medic and takes with him flight surgeon, CPT Henry M Giles, commander of the 134th Medical Detachment, the dispensary at Soc Trang. In those early days in Vietnam, the 57th took a flight surgeon along to care for wounded Americans, later dropping the practice when they determined that a flight surgeon couldn't provide more care in the air than a well-trained flight medic could (Brady & Smith, 2010, p. 76). Kelly's copilot, CPT Richard K. Anderson, and his crew chief, PFC Earl L. Pickstone, were also on board (Vietnam Helicopter Pilots Association, 2021a). Approaching the pick-up site, Kelly contacts the advisory team on the ground using his detachment's well-known callsign, "Dustoff," which in the Mekong Delta at that point in the war, was virtually associated with him personally. Kelly landed the aircraft (R. Anderson, personal communication, n.d.)[1] and waited for the unit on the ground to bring out the casualties when he came under fire.

Figure 1. Photo of MAJ Charles L. Kelly taken in the Republic of Vietnam in early 1964. Photo credited to a member of the United States Army (public domain).[2]

As his aircraft comes under heavy fire, the advisor on the ground tells Kelly to leave the area. The fire intensifies. The advisor on the ground continues to direct him to leave. Kelly calmly answers, by most accounts, "When I have your wounded" (Dorland & Nanney, 1982, p. 37; Cook, 1998, p. 67; Brady & Smith, 2010, p. 76). One account by Peter Arnett, who wrote what would become, in effect, Kelly's obituary, recounts him saying "I'll move when I have your wounded with me" (Arnett, 1964, p. 37). A single round enters the open left cargo door of the aircraft, pierces Kelly's heart, and embeds itself in the aircraft frame to his right. He utters the phrase "my God," and dies (Dorland & Nanney, 1982, p. 37), jerking back on the cyclic and up on the collective, which pitches the aircraft into the air and over onto its left side—striking the ground before Anderson can gain control of it—the rotor blades and transmission essentially destroying the aircraft (R. Anderson, personal communication, n.d.). Other accounts have stated that Kelly had the aircraft airborne when he was hit—CPT Giles recalls them as being at a high hover—about 30 feet in the air (Palmisano, 2011, p. 206). Still others have Kelly hovering the aircraft on the landing zone (Arnett, 1964, p. 37; Cook, 1998, pp. 66-67; TIME USA, LLC., 1964, p. 4). This was probably due to Kelly's pitching the aircraft into the air when he was hit. Anderson kills the aircraft's engine and fuel supply and drags Kelly from the wreckage. The rest of the crew help carry him to a nearby dike where Giles attempts to render aid, to no avail, while Anderson and Pickstone provide a defense (R. Anderson, personal communication, n.d.; Palmisano, 2011, pp. 206-207).

[1] For more on information on the R. Anderson personal communication citations throughout this article, please contact the author at donald.e.hall40.civ@mail.mil
[2] https://en.wikipedia.org/wiki/Charles_L._Kelly#/media/File:US_Army_Major_Charles_L_Kelly_MSC.jpeg

For his actions before the crash, Kelly would be awarded the Distinguished Service Cross, (Department of the Army, 1964), a Silver Star Medal for a mission in June, and the Distinguished Flying Cross with two bronze oak leaf clusters earned over a 5-day period in April (Department of the Army, 1964; Engert, 1966).[3] Anderson, (Department of the Army, 1965b) Giles, (Department of the Army,1965a), and Pickstone (Department of the Army, 1965b) would each be awarded the Bronze Star Medal for Valor for their actions after the crash. Kelly's death, coming as it did at a critical time in the fight over control of the medical evacuation mission, would settle the argument for the rest of the war (Cook, 198, pp. 68-69) and for the next 50 years. It earned Kelly the sobriquet "The Father of Dustoff" (Zabecki, 2018) (Figure 1).

My thesis is that the Charles Kelly of legend is not the real Charles Kelly. While many of the stories are true or have their basis largely in truth, the real Charles Kelly had been leader developed (Department of the Army, 2022) throughout his career for his command of the 57th Medical Detachment at that point in time to settle this question: Is the medical evacuation mission a transportation mission that involves using helicopters to move patients or a medical mission that uses helicopters to accomplish its task? Further, he built his reputation using the most capable rotary-winged utility aircraft the Army had fielded to date—the UH-1 Iroquois—designed for use as an air ambulance (Dorland & Nanney, 1982, p. 19; Brown, 1995, pp. 102-105) and herded through the procurement process for the Army Surgeon General by Medical Corps LTC (later, MG) Spurgeon H. Neel, Jr., the "Father of Army Aviation Medicine" (Army Medical Department Center of History & Heritage, n.d.; San Antonio Express-News, 2003).

CPT Kelly was not only leader developed, he most capably led and taught others himself. A statement from his 1975 Army Aviation Hall of Fame Induction at Fort Rucker, Alabama, proclaimed "an exceptionally capable instructor in medical subjects as a Captain, Kelly demonstrated a high degree of positive leadership early in his career, an asset that became fully evident in later combat in Vietnam" (Army Aviation Association of America, 2020).

So, what do we know about Charles Kelly that led him to 1 July 1964? We know he dropped out of high school at age 15 to enlist in the Army at Fort Screven, Georgia, as a medic on 1 February 1941, using a variant spelling of his name and a false birthdate, (Fold3® by Ancestry®, 2012) and that he was seriously wounded during the battle for Aachen, Germany, while serving as an infantryman in the 30th Infantry Division (Clancey, 2022). For his service in the war, he was awarded the Bronze Star Medal, Purple Heart, Combat Infantryman Badge, and Combat Medical Badge (Military Hall of Honor, 2021; Hughes, 2022). Following the war, he returned to his home in Screven and completed his education, finally earning a Master of Science at the George Peabody College in Nashville, Tennessee (Engert, 1966) (Figure 2).

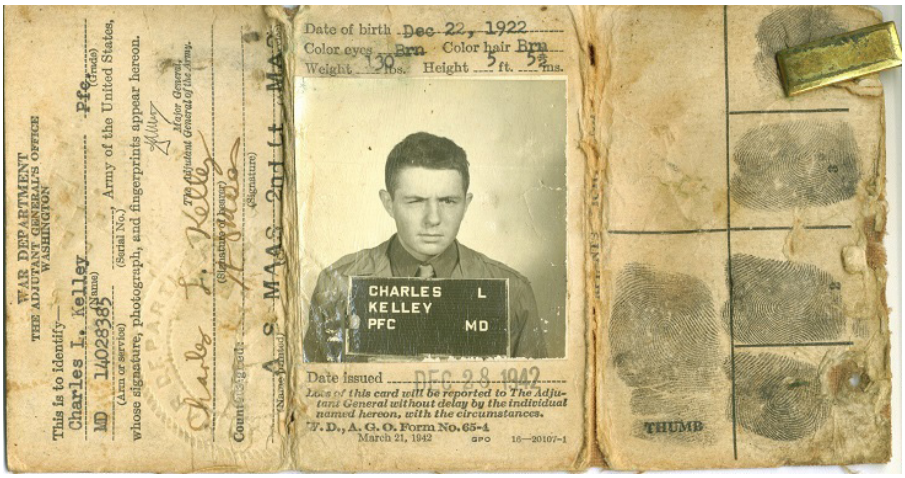

Figure 2. Identification card used by Charles L. Kelley *[sic]* during his enlisted service in World War II. Photo credited to the United States Army (public domain).[4]

While Kelly taught for a short time, he also applied for a commission in the Army, was accessioned as a 2LT, and entered active duty in the Medical Service Corps on 25 October 1951. After completing his Officer Basic Course at the Medical Field Service School at Fort Sam Houston, Texas, and the Basic Airborne School at Fort Benning, Georgia, he reported to Fort Campbell, Kentucky, for assignment to the 11th Airborne Division, serving in the 188th Airborne Infantry Regiment and 710th Tank Battalion (Engert, 1966).

Kelly reported to Fort Sill, Oklahoma, for class 54J of the Army Rotary Winged Aviator Course in March 1954, graduated, and was awarded his Army Aviator wings on 2 October 1954 (Vietnam Helicopter Pilots Association, 2021b). He would then spend the rest of his career—and his life—on flight status, unusual for an Army Medical Department (AMEDD) Aviator.

Following graduation from the Officer Advanced Course, Kelly was assigned to the 55th Medical Group at Fort Bragg, North Carolina, as the group's assistant operations and training officer and then moved to Fort Rucker and the Army Aviation School (Engert, 1966). There, he was assigned as an instructor in the school's Air Mobility Branch, part of the Department of Tactics, as well as serving as the administrative officer to the Aviation Medical Advisor (Engert, 1966). His officer evaluation report (OER) from that assignment stated:

"Capt Kelly has demonstrated a remarkable ability to instruct in medical subjects. He is noted for his calm aplomb, exceptionally fine build, poise, and commanding voice on and off the instructional platform. He thinks very clearly, is alert to changes that will affect the instruction that is his responsibility, and

[3] For more on information on the Engert citation throughout this article, please contact the author at donald.e.hall40.civ@mail.mil
[4] https://en.wikipedia.org/wiki/Charles_L._Kelly#/media/File:Charles_L_Kelley_ID_Card.jpeg

possesses a high degree of common sense. One of his outstanding assets is his ability to organize instructional material well. Another of his assets is the strong initiative he displays in developing instructional material and in keeping abreast of current doctrine in the medical field. During the period he has served under me, he has proven to be an exceptionally capable administrator while acting in the capacity of a branch supervisor. He has also demonstrated a high degree of positive leadership in supervising the activities of several officers assigned to this branch. He is noted for his extreme devotion to duty and it has become evident that he is strongly motivated by a desire to perform better than his contemporaries. He is morally of strong character and is devoted to his family" (Engert, 1966).

Given the comments on initiative and keeping abreast of current Army aeromedical evacuation doctrine noted on Kelly's evaluation, he probably came to know Spurgeon Neel during this assignment, as Neel was a vocal proponent of Army aeromedical evacuation. Neel published two papers on Army aeromedical evacuation while commanding the 30th Medical Group (now the 30th Medical Brigade) in Korea. From 1954 to 1957, Neel was assigned to the Office of the Surgeon General, where he established and served as the first chief of the Aviation Branch for the Plans and Operations Division of that office. There, he was responsible for all things related to Army aeromedical aviation. He published an article in *Army* magazine for line commanders on medical evacuation (Neel, 1956a) and co-authored an updated version of his 1954 paper on medical evacuation (Page & Neel, 1957). Additionally, he reinstated a program for placing Army flight surgeons on flying status that had ended when the Army Air Forces and their flight surgeons departed to become a separate service, as well as reintroducing the Army Flight Surgeon Badge (Neel, 1985).

Do we know if Kelly and Neel knew each other? Neel says they did. In a May 1974 article for the *Army Aviation Digest*, where he wrote of the accomplishments of Dustoff in Vietnam, he tells Kelly's

Figure 3. MG Spurgeon H. Neel, Jr., Commanding General, Health Services Command, Fort Sam Houston, Texas. Photo courtesy of the U.S. Army (public domain).[5]

story and the story of Kelly's greatest protégé, Patrick H. Brady. Brady flew with Kelly in the 57th as a CPT and would receive the Medal of Honor and the Distinguished Service Cross as a Dustoff pilot on his second tour in Vietnam as a MAJ (he retired as an MG). Neel closes the article with "I knew them well and I am proud" (1974, p. 9) (Figure 3).

After leaving Fort Rucker, Kelly assumed command of the 50th Medical Detachment (helicopter ambulance) in Korea. The 50th Medical Detachment was located outside Uijongbu (Hough, 1999, p. 26), the same town near where the fictional 4077th M*A*S*H would later be reputed to be located (Hooker, 1997, p. 13). The detachment was known to have problems, and Kelly turned the detachment around during the year that he was in command (Figure 4). His OER contained glowing remarks about him as a person, pilot, and commander, and noted that "The morale of his personnel is outstanding" (Engert, 1966).

After completing his command in Korea and receiving an Army Commendation Medal at a time when peacetime awards of any kind were rare, Kelly was assigned to Brooke Army Medical Center (BAMC) at Fort Sam Houston (Engert, 1966).

In 1962, Kelly was assigned to Fort Benning as the commander of the 54th Medical Detachment (helicopter ambulance) (Figure 4). The 54th had been inactivated in Korea on 15 August 1962 and reactivated on 26 October 1962 under Kelly's command as part of the buildup in support of a potential invasion of Cuba during the Cuban Missile Crisis (Hough, 1999, p. 39).

Kelly left command of the 54th in December 1963 (Engert, 1966). He arrived in Vietnam to assume command of the 57th Medical Detachment (air ambulance) on 12 January 1964 (Christie, 1965). At that point, the detachment had been in country for nearly 2 years, arriving on 26 April 1962 from Fort Meade, Maryland, as one of the first AMEDD units to deploy to Vietnam, bringing with it the very first five UH-1s to arrive in-country (Conway, 1964). The 57th would also end up being the longest serving AMEDD unit in Vietnam, finally casing its guidon at Tan Son Nhut airbase on 9 March 1973 to depart for its new home at Fort Bragg 3 weeks before the final withdrawal of U.S. forces from Vietnam—spending nearly 11 years in combat (Hueter, 1973). These five UH-1s led to a series of fights between the aviation community and the medical community over the role of the air ambulance for nearly 2 years. Was patient evacuation in Vietnam a transportation mission involving the movement of patients or a medical mission involving the use of aircraft—and did it require dedicated airframes or not? This was an issue that Neel had written extensively about during the 1950s, both in journal articles and policy statements for the Surgeon General (Neel, 1956b, 1956c, 1957). Kelly, as has been noted, knew both the aviation doctrine and the medical doctrine, and he knew it well. Thus, Kelly would be able to make argu-

Figure 4. H-19C crash site, aircraft piloted by CPT Charles L. Kelly, Commander, 54th Medical Detachment, (helicopter ambulance). Kelly's diary noted it as "a routine day" (Kelly, 2014). U.S. Army photo courtesy of Charles L. Kelly, Jr.

[5] https://commons.wikimedia.org/wiki/File:US_Army_MG_Spurgeon_Neel.jpg

ments in favor of his—and AMEDD's as an institution—positions that were hard for the aviators to argue against.

Did Kelly make doctrinal arguments to support his positions? The evidence indicates that he did in a 16 April 1964 letter to MAJ William R. Knowles, the Aviation Advisor in the Office of the Army Surgeon General. Kelly wrote:

"I have won all the arguments so far. … But I can't just tell them no. ... Just get me the right regulations to back up the doctrine of the Army Medical Service. And don't quote me the regulations, send them to me. It is hard to get them over here" (Kelly, 1964a).

Figure 5. Photo of CPT Charles L. Kelly, Medical Service Corps, Commander, 50th Medical Detachment (helicopter ambulance), Uijongbu, Korea. Photo courtesy of Charles L. Kelly, Jr.

Further, Kelly continued his aggressive piloting and fierce loyalty to his organization and men, just as he had in his previous commands. Kelly's unstated command philosophy—often attributed to him and reflective of his nature but according to Pat Brady, was never actually voiced in Vietnam—was "No compromise. No rationalization. No hesitation. Fly the mission. Now!" (Gill, 2017). That also made it hard for the aviation community to argue against Kelly, for he not only talked the talk he walked the walk. Indeed, in the OER that he received in April 1964, his rating officer, Artillery COL Raymond R. Evers, who served as the U.S. Army Support Command, Vietnam Chief of Staff, noted that:

"Major Kelly has provided mature leadership to his unit in combat, gaining the respect and admiration of his associates and the loyalty of his subordinates. He is outspoken and has strong feelings on most any subject which involves the mission or welfare of his unit. He has been eager to serve the medical evacuation needs of the command and willing to take whatever personal risks were necessary to assure the welfare of the patients entrusted to him … His unit enjoys an excellent reputation among other aviation units. His unit never refuses a mission night or day for support of ARVN or U.S. troops" (Engert, 1966) (Figure 5).

In an OER dated 30 June 1964—likely the closeout after his death—his reviewing officer, COL Klingenhagen, an infantryman and Army Aviator who was the Deputy Commander of the U.S. Army Support Command, Vietnam, wrote:

"I personally observed Major Kelly on many combat operations. He is one of the most aggressive commanders in Vietnam and his unit reflects his dynamic leadership by always accomplishing their mission even under the most hazardous of conditions … Major Kelly has done an exceptional job with his unit since taking command. His unit's discipline and appearance have improved materially" (Engert, 1966).

Distinctive Unit Insignia, 57th Medical Detachment, AMEDD Museum Collection, Joint Base San Antonio, Texas, October 2021. U.S. Army photo by Francis S. Trachta/Released.

In his April 1964 letter to Major Knowles, the same one in which he asked for copies of doctrinal publications and regulations, Kelly wrote, while discussing his next assignment, that he intended to retire shortly after returning from Vietnam (Kelly, 1964a). Two weeks before he died, in another letter to Knowles, after again discussing the issues that the 57th was facing and how he was dealing with them, he closed his letter by stating:

"Don't forget that I am going to retire. Don't go to the trouble of answering this letter for I know that you are very busy. Anyhow, everything has been said. I will do my best, and please remember Army Medical Evacuation FIRST" (Kelly, 1964b).

The truth is that Kelly did not have to attempt that landing. Nor did he have to remain, waiting for his patients under enemy fire. The advisors on the ground told him to leave. But that wasn't Kelly's way. Patrick Brady, not one to shy away from danger himself, called Kelly "the greatest individual soldier I ever knew" (American Veteran's Center, 2021). And in a *McCall's Magazine* 1966 anthology, "The Gift of Love," GEN William C. Westmoreland chose Kelly as an example of "the greatness of the human spirit," and said of Kelly:

"The Major Kellys … have given America more than they have taken from her. And they are still giving, for when the going gets rough and an extra ounce of effort is needed, Major Kelly's last words still shine brightly: "When I have your wounded" (Westmoreland, "General William C. Westmoreland, Commander, U.S. Forces in Vietnam," 1966).

If Kelly had turned away from that landing zone or left when directed by the advisors on the ground, no one would have said anything about it, and it was accepted practice in the Korean War (Blumenson, 1987, 1990, pp. 111-112). Indeed, after Kelly's crash, another Dustoff aircraft piloted by Brady and 1LT Ernie Sylvester went into the landing zone and made the pickup later that same day—Kelly's bird still a mangled heap nearby (Brady & Smith, 2010, p. 77). But Kelly would not do that. Nor would his men. Nor would the men who followed them. Nor the women who joined them. And that is both Kelly and Neel's transformative legacy. Because Neel saw the air ambulance not just as a transportation means but as an asset where care could be given en route, and Kelly knew that the only way to make use of that asset properly was to bring it to the point of injury—regardless of conditions in the air or on the ground—and then bring the patient directly to the point where the most appropriate care could be given. This, in turn, allowed the hospitals in Vietnam, no longer required to relocate frequently on the battlefield, to become semi-permanent facilities with equipment, and in some cases rivaling that found in stateside hospitals (Neel, 1973, pp. 59-60). And this is why Kelly's declaration, "When I have your wounded" are the five most transformative words in Army medical evacuation.

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Biography:

Retired Army COL, Donald E. Hall, PhD, is an Adjunct Assistant Professor of Military Medicine and History at the Uniformed Services University of the Health Sciences and is the Assistant Director of Staff at the Defense Health Agency. He is a qualified Army Pathfinder and former Chief of Staff of the 44th Medical Brigade.

This flight jacket, located at the AMEDD Museum, JBSA, Fort Sam Houston, Texas, belonged to MAJ Charles L. Kelly, one of the leading figures in establishing the need for independent aeromedical evacuation units. His actions and exploits were also instrumental in forming the basis for the special esprit de corps of all "DUSTOFF" units. U.S. Army photo by Francis S. Trachta/Released.

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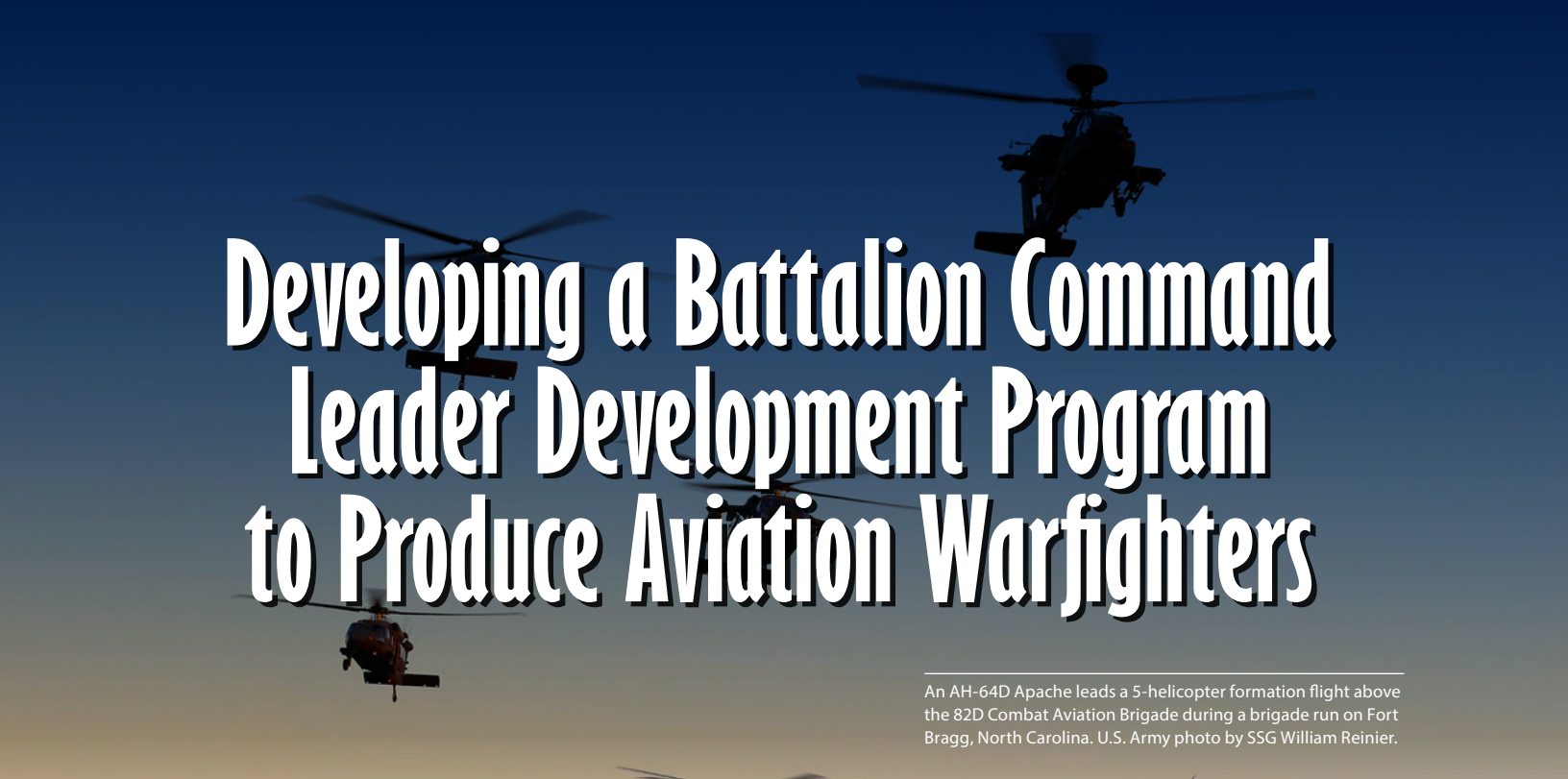
Developing a Battalion Command Leader Development Program to Produce Aviation Warfighters



An AH-64D Apache leads a 5-helicopter formation flight above the 82D Combat Aviation Brigade during a brigade run on Fort Bragg, North Carolina. U.S. Army photo by SSG William Reinier.

By LTC Joe McCarthy

The competitive advantage of the United States Army is its people. Our high-quality officers, warrant officers (WOs), and noncommissioned officers (NCOs) are the result of the deliberate investment in time and resources unmatched by any other military in the world, particularly in the realm of leader development. Battalion commanders develop leaders every day, yet still have much room for improvement. Indeed, effective leader development requires a deliberate, well-resourced program with the direct engagement of our battalion-level commanders. Not only do they impact their traditional audience two levels down, but they can expand that aperture and influence. Battalion commanders also closely oversee the plans of others and reap the effects of more poorly focused efforts.

Leader development is an organizational imperative and codified within doctrine. Field Manual (FM) 6-22, "Developing Leaders," states "There is no more important task … than developing its people to lead others to defeat any enemy, anywhere" (Department of the Army [DA], 2022, p. 1-1). The Army Aviation Training Strategy underscores the point that "Developing leaders and units to fight and win is a commander's number one priority" (U. S. Army Aviation Center of Excellence, 2020, p. 7).[1] In no uncertain terms, it is the professional, ethical, and moral obligation of battalion commanders to develop their junior leaders into warfighters with the competence, character, and commitment to lead America's sons and daughters in combat.

The purpose of this article is to offer future battalion and squadron commanders an approach to design their leader professional development plans. Aviation battalion commanders are expected to prepare their company-grade leaders to conduct multidomain operations in uncertain and ambiguous situations across all operational environments. Our success is predicated on agile and adaptive leaders who are highly competent in their warfighting skills. Leader development plans and leader development programs (LDPs) are critical components that increase technical and tactical competence and build cohesive teams capable of mastering combined arms maneuver.

Developing a Leader Professional Development Plan

Leader development is defined as "the deliberate, continuous, and progressive *process*—founded in the Army Values—that develops Soldiers and Army Civilians into competent, committed professional leaders of character" (DA, 2022, p. 1-1). An LDP contributes to this process by containing clearly defined outcomes and framed by leadership, attributes, and competencies outlined in Army Doctrine Publication (ADP), "Army Leadership and the Profession," (DA, 2019d). It should also incorporate the fundamentals of operations, mission command, and the operations process as described in ADP 3-0, "Operations" (2019b), ADP 6-0, "Mission Command: Command and Control of Army Forces" (DA, 2019a), and ADP 5-0, "The Operations Process" (DA, 2019c).

Leaders in Army Aviation must also be competent in our branch's unique technical and tactical knowledge, skills, and abilities. Resultantly, an LDP should include events and activities that promote efficiency in aviation operations prescribed in FM 3-04, "Army Aviation," Army Techniques Publication 3-04.1,[2] "Aviation Tactical Employment," Training Circular 3-04.2, "Aviation Combat Tactics and Survivability,"[3] and the Army Aviation Training Strategy (U. S. Army Aviation Center of Excellence, 2020).

Battalion commanders are responsible for the leader development of all their lead-

[1]The Army Aviation Training Strategy is available as a hotlink on the U.S. Army Aviation Center of Excellence's Directorate of Training and Doctrine (DOTD) SharePoint site with a valid common access card (https://intranet.tradoc.army.mil/sites/usaacedotd).

ers—officers, WOs, and NCOs. Officers must be exemplars of the Army profession, technically and tactically competent, and experts in combined arms maneuver. Deficiency in any one of these areas will preclude successful mission command in multidomain operations. They must be able to design tough, realistic training for their organization to plan, prepare, and execute training while assessing proficiency in the mission-essential tasks.

While this article primarily focuses on the development of commissioned officers, battalion commanders should provide commander's guidance to their command sergeants major (CSM) and senior WO advisors in their training guidance to develop LDPs for their WOs and NCOs. Examples can be found in FM 6-22, Figures 5-1 to 5-6 (DA, 2022, pp. 5-12 to 5-11), as well as Figure 1 of this article (McCarthy, 2023a).

If a battalion commander does not have an initial framework for their LDP before taking the colors, it's unlikely they will have the necessary time to develop an effective one while leading their formation. Ideally, program design should begin upon notification of the category of command for which you are selected. While the recommendations in this article are derived from a tactical leadership program, the process below can be applied to any command category or composition.

1. *Solicit examples from peers and mentors.* Most of us have experienced quality leadership development programs throughout our careers. Borrow from these plans liberally, or at least use them as a starting point for your own program.

2. *Develop an initial framework.* Like a military operation, your LDP should consist of objectives and an end state—to create leaders of competence, character, and commitment prepared to lead Soldiers in large-scale combat tailored to the unique mission of your organization.

3. *Request feedback from former battalion commanders.* After completing your initial draft, send your LDP to former battalion commanders. Be specific in what kind of feedback you are requesting. For context, receiving feedback from five former battalion commanders is over a decade of experience to make your LDP better.

4. *Request feedback from company-grade officers for bottom-up refinement.* The effectiveness of your LDP is contingent upon buy-in from those in the program. Reach out to former CPTs and LTs from previous assignments to provide feedback and ideas to improve your plan for your LDP. The insights from company-grade officers will surely make the events and topics more interesting and relevant.

5. *Refine after you conduct your initial assessment.* After taking command, you will likely find that your initial plan does not totally encompass what the leaders in your organization need. Your initial assessment of your unit will glean what your leaders may be lacking, to include unit training management, maintenance procedures, or a specific competency necessary for an upcoming real-world mission. Additionally, you may receive refined brigade- and division-level training guidance that may require you to refine your program. Last, after your first event with your leaders, you may refine the program based on a feedback survey from LDP participants.

Leader Development Frameworks

An LDP should be informed by doctrine and the requirements of your specific unit (DA, 2022, p. 5-22). Moreover, the construct and framework are personal and based on a commander's unique knowledge, skills, and behaviors, any of which can be applied to make the leaders in an organization better. Some battalion commanders have a depth and breadth of tactical experience from a combination of assignments at the combat training centers, small group leaders at the Captain's Career Course, and the Mission Command Training Center. Others may have broadening experiences from assignments in strategic- or operational-level staffs. Career paths vary, which in turn lead to different frameworks. Next are some ideas as potential components of *your* framework.

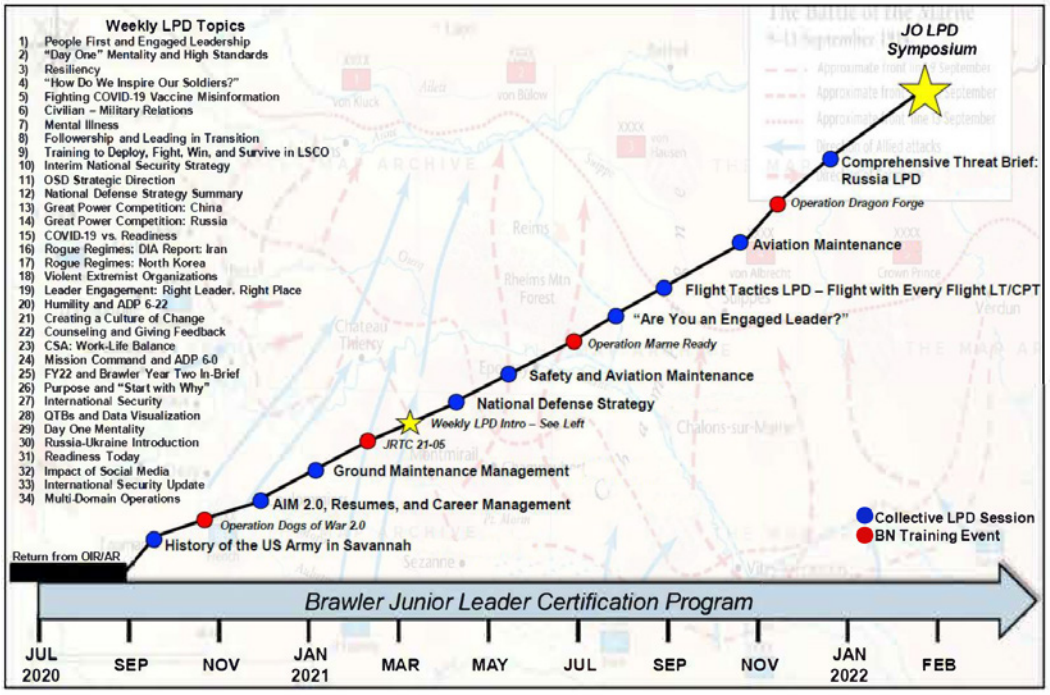


Figure 1. Sample battalion-level leader professional development program (McCarthy, 2023a).

[2] This document is available via the Army Publishing Directorate, https://armypubs.army.mil, with a valid common access card.

[3] This document is available via SIPR Intelink, https://intelshare.intelink.sgov.gov/sites/army-AMS, with a valid common access card.

Leader Certification Program

An essential part of an LDP is how you will certify leaders in your organization. It should encompass *who* is responsible to certify each component of the program, *when* it should take place in a leader's timeline, and *how* it is certified to ensure it is completed to standard. This can be clearly codified in the policy letter you publish shortly after taking command and inspected during counseling and officer evaluation report outbriefs.

Since an aviation battalion consists of officers from multiple branches, a leader certification program should have directed tasks officers must complete prior to completing the program. Additionally, aviation officers have specific tasks that are unique from other branches; therefore, tasks should be divided into *junior leader tasks* (Figure 2) and *aviation officer specific tasks* (Figure 3). Junior leader tasks should be tied to actions, courses, and experiences that lead to competence in personnel, equipment, and training readiness.

Task Type	Description	Validator	Date Complete	Initials
P	In-process	Individual		
O	Complete "ride along" with Battalion Commander	BN S-1		
O	Read 3ID, 3rd CAB, and 4-3 BN Policy Letters	BN S-1		
T	Read 3ID Standards Blue Book	Co CDR		
L	Counsel PSG or Section Sergeant using DA Form 2166-9-1A, NCO Counseling and Support Form	Co CDR		
L	Lead platoon/section PT session*	Co CDR		
L	Conduct an ASU in-ranks inspection of your platoon/section*	Co 1SG		
L	Attend a Company FRG Meeting; introduce yourself	Co CDR		
T	Read Brigade's Annual Training Guidance	BN S-3		
T	Read Battalion's Quarterly Training Guidance for current quarter	BN S-3		
T	Review company METL and company commander's METL Assessment, and then brief BN S-3 on your findings	BN S-3		
S	Inventory and sign for Platoon Equipment; use appropriate TMs/SCs, record non-expendables, durables, and expendable shortage annexes	Co CDR		
M	Supervise PMCS on assigned platoon/section vehicle(s)*	Co CDR		
M	Certify PMCS on all assigned platoon/section equipment*	Co CDR		
O	Read and know the history of 4-3 AHB, 3CAB, and 3ID	BN CSM		
O	Complete OER Support Form (DA 67-10-1A). Discuss duties/performance objectives with company commander.	Co CDR		

* Not a one-time event

Figure 2. Sample junior leader tasks (McCarthy, 2023b).

Description	Validator	Due NLT	Date Complete	Initials
Brief assigned aircraft status in a PC meeting*	Co CDR	90 days		
FARP certification qualification	Co ASO	120 days		
Brief multi-ship aircraft mission as AMC in training	BN S-3	180 days		
Chair a phase brief for an assigned aircraft	BAMO	180 days		
Teach a pilot class during Battalion Crew Call	BN SIP	180 days		
Provide a capabilities brief of your assigned airframe to a supported ground unit	Co CDR	1 year		
Attain 400 hours of total flight time	BN S-3	PCS		
Become a PC in your assigned airframe	Co CDR	PCS		

* Not a one-time event

Figure 3. Sample aviation officer tasks (McCarthy, 2023c).

Air Mission Commander Table Design Exercises

Large-scale combat operations require air mission commanders (AMCs) that are technical and tactical experts, intellectually agile, and adaptable in constantly changing operational environments. Self-development and experience support a leader's ability to make sound, informed decisions. However, information and study alone are insufficient to improve AMC decision-making abilities.

Air mission commanders' table design exercises (TDEs) are tactical scenarios—in a classroom setting—that force AMC candidates through decision-making cycles they may encounter during large-scale combat. The goal of using AMC TDEs is for future AMCs to apply a decision-making framework to quickly process information and make the best decision possible on modern and future battlefields. The exercise presents AMC candidates with multiple iterations derived from their unit's mission-essential task list and lasts 30 minutes (Figure 4).

Each AMC candidate is teamed with a facilitator, at least two experienced AMC coaches, and other AMC candidates. The facilitator provides a mission overview, commander's intent, operational graphics, and fragmentary orders for each iteration. Coaches provide feedback during after action reviews and the *Did you consider* period of the iteration. A lead AMC from the AMC candidates is chosen for each iteration, while other AMC candidates observe and provide input during the *Did you consider* period of the iteration (Figure 5).

Air mission commander TDEs provide AMC candidates with *reps and sets* of complex, large-scale combat operations-

Event Timeline

(3 hours)

- 0900-0925: Opening Comments/Purpose/Decision Making Framework
- 0925-0930: Explanation on sequence of events
- 0930-1000: Iteration 1
- 1000-1003: Facilitators Rotate
- 1003-1033: Iteration 2
- 1033-1036: Facilitators Rotate
- 1036-1106: Iteration 3
- 1106-1109: Facilitators Rotate
- 1109-1139: Iteration 4
- 1139-1200: B6 Closing Comments

Figure 4. Example AMC TDE event timeline (McCarthy, 2023d).

focused scenarios outside the cockpit where failure does not result in loss of life or damage to an aircraft. Air mission commander candidates benefit from being given a comprehensive decision-making framework, feedback from the experiences of senior AMCs in the battalion and brigade, and a better understanding of air-ground operations in combined arms maneuver.

Encourage Self-Development

Self-development is one of the three domains of leader development. Reading is an essential part of self-development and critical to leading Army formations at echelon. Former Secretary of Defense and Marine 4-star Gen. James Mattis said, "If you haven't read hundreds of books, you are functionally illiterate, and you will be incompetent, because your personal experiences are not broad enough to sustain you" (Mattis & West, 2019).

A battalion LDP should provide junior leaders with reading lists and recommended readings to navigate the expanse of literature available across multiple disciplines. It helps make self-development a habit to continue to learn about our profession, develop their own leadership style, and learn from the experiences of others (Figure 6).

Weekly Leader Professional Development Email

After publishing your LDP to your formation, periodic (e.g., bi-weekly) leader professional development emails are a method to provide leaders with targeted topics your unit may need based on the climate and culture of your battalion. For example, if there is a societal issue impacting the Soldiers in your unit, you can provide an article, podcast, or video that articulates the message you want to send. Additionally, you can provide context and personal experiences to assist leaders in addressing their Soldiers. This can provide a window for your formation to know what is on your mind, as well.

Leader Professional Development Symposiums

A Leader Professional Development Symposium is a culminating event that can link all aspects of your LDP. The theme of your symposium, like your LDP itself, is your own and what you think your leaders need to assume leadership positions of greater responsibility. Presenters and speakers should be relevant to the overall theme and can be drawn from your brigade and division leadership or from peers and mentors serving across Army and Joint assignments (Figure 7).

Conclusion

As battalion commanders, we are responsible to develop the battalion commanders, senior WO advisors, and CSMs of tomorrow. This requires us to do more than assigning a book to read, a podcast to listen to, or a visit to a Civil War battlefield. We are not developing business executives for Fortune 500 companies or managers of Walmart—we are forging combat leaders that are expected to lead America's sons and daughters in combat.

Commanders are directed to develop leaders in our doctrine, and we know intuitively that doing so is as critical to our success as much as any other training event. The tools in this article are a complement to existing doctrine to apply these concepts in an aviation battalion or squadron.

The junior Soldiers and leaders of today are not only the future senior leaders of our Army, but they are better educated, more talented, and more technologically savvy than previous generations of leaders. They are driven and want to serve something greater than themselves, like those that came before them. According to GEN James McConville, the Chief of Staff of the Army, "battalion commanders are arguably the most consequential leaders in the Army" (McConville & McGee, 2019). It is the responsibility of battalion commanders to ensure junior leaders are given the opportunities and experiences necessary to gain the knowledge, skills, and behaviors necessary to lead battalions of the future. The best part: It is the most enjoyable aspect of battalion command you will experience!

Sequence of Events (30 min)

5 minutes
- Receive the mission & first situation

4 minutes
- AMC Candidates make decisions

5 minutes
- AAR / COA Discussion by Facilitators

2 minutes
- FRAGO Issued

4 minutes
- AMC Candidates make decisions

5 minutes
- AAR / COA Discussion by Facilitators

5 minutes
- 'Did You Consider?'

Figure 5. Air mission commander TDE sequence of events (McCarthy, 2023e).

U.S. Army Center of Military History Recommended Professional Reading List:
http://www.history.army.mil/reading.html

The U.S. Army Chief of Staff's Professional Reading List
https://history.army.mil/html/books/105/105-1-1/CMH_Pub_105-5-1_2017.pdf

National Defense University Professional Military Reading List
http://www.ndu.edu/Libraries/Professional-Military-Reading-List/

General (Ret.) James Mattis: My Favorite Books
https://www.leadershipnow.com/leadingblog/2019/11/james_mattis_my_favorite_books.html

My Top Three Book Recommendations for Junior Officers:
1. *Hal Moore on Leadership: Winning When Outgunned and Outmanned* by LTG (Ret.) Harold G. Moore and Mike Guardia
2. *Call Sign Chaos: Learning to Lead* by Gen (Ret.) James Mattis and Bing West
3. *Blackhearts: One Platoon's Descent into Madness in Iraq's Triangle of Death* by Jim Frederick

Figure 6. Example reading lists and recommended readings (McCarthy, 2023f).

Biography:

LTC Joe McCarthy currently serves as the Chief of the United States Army Aviation Center of Excellence Commanding General's Initiative Group. Previously, he served as the Battalion Commander of 4-3 Assault Helicopter Battalion assigned to the 3D Infantry Division. His other assignments include Lead Speechwriter and Special Assistant to the 19th and 20th Chairmen of the Joint Chiefs of Staff; Strategic Planner in the HQDA G-3/5/7 Army Initiatives Group; Junior Military Assistant to the Secretary of Defense, as well as numerous staff and leadership positions in the 25th Infantry Division and 101st Airborne Division (Air Assault). He has deployed three times to Afghanistan in support of Operation Enduring Freedom: once with the 25th Infantry Division as a Rifle Platoon Leader, and twice with the 101st Airborne Division as a Flight Troop Commander, Brigade Operations Officer, and Brigade Executive Officer. He holds a doctorate in Political Science from the University of Nebraska-Lincoln, a master's degree in Public Policy Management from Georgetown University, and bachelor's degrees in Psychology and Criminal Justice from Rutgers University.

	Monday (14 February)	Tuesday (15 February)	Wednesday (16 February)	Thursday (17 February)	Friday (18 February)
	Tactical / Aviation Operations	Insitutional / Strategic Policy		HRC / Broadening	ROSTER
0600	Late Work Call (Superbowl)	PT Event		Frisbee PT	Rank / Name
0700					LTC [redacted]
0800					CPT
0900	Division CG	LTC XXXX (Army Staff / DAMO-AV)		Aviator Academics / China Brief	CPT
1000	Brigade CSM				CPT
1100					CPT
1200					CPT
1300		COL XXXX (OSD)			2LT
1400	Brigade Commander	LTC(P) XXXX (Joint Staff)		LTC XXXX (Harvard Strategist, ASP3, NSC)	2LT
1500	Brigade CCWO			CPT(P) XXXX (USMA)	1LT
1600	Division DCG-S	COL XXXX (USAACE)		MAJ XXXX (CTC)	1LT
1700				CPT XXXX (AVC3 SGL)	1LT
1800				Team Dinner	1LT
1900					1LT
2000					1LT
2100					1LT

Figure 7. Sample leadership development symposium (McCarthy, 2023g).

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McCarthy, J. A. (2023a). Figure 1. *Sample battalion-level leader professional development program.*

McCarthy, J. A. (2023b). Figure 2. *Sample junior leader tasks.*

McCarthy, J. A. (2023c). Figure 3. *Sample aviation officer tasks.*

McCarthy, J. A. (2023d). Figure 4. *Example AMC TDE event timeline.*

McCarthy, J. A. (2023e). Figure 5. *AMC TDE sequence of events.*

McCarthy, J. A. (2023f). Figure 6. *Example reading lists and recommended readings.*

McCarthy, J. A. (2023g). Figure 7. *Sample Leadership development symposium.*

McConville & McGee. (2019, December 23). *Battalion commanders are the seed corn of the Army.* https://warontherocks.com/2019/12/battalion-commanders-are-the-seed-corn-of-the-army

U. S. Army Aviation Center of Excellence's, Directorate of Training and Doctrine. (2020). *Army aviation training strategy: Training aviation warfighters for decisive action.*

Lessons Learned for the Force: Battalion Field Training Exercise

Soldiers on the downed aircraft recovery team with 404th Aviation Support Battalion, 4th Combat Aviation Brigade, 4th Infantry Division, load onto a Chinook after completing field exercise training at Fort Carson, Colorado, Aug. 24, 2022. The purpose of the exercise was to sustain 4th CAB's offensive operations to destroy enemy forces. A significant part of the training included downed aircraft recovery. U.S. Army photo by SGT Woodlyne Escarne.

By LTC Steven P. Sevigny and CPT Caroline E. Smith

From August 18 through August 26, 2022, the 404th Aviation Support Battalion (ASB), 4th Combat Aviation Brigade (CAB), 4th Infantry Division (ID) deployed to the field for a battalion field training exercise (FTX), Operation Silk Road. The intent of this FTX was to establish the brigade support area (BSA) for the CAB and to train occupying, establishing, and defending the BSA. We also trained aircraft refueling via the fuel system supply point (FSSP)/5K tankers/heavy expanded mobility tactical trucks by establishing a forward arming and refueling point (FARP), aviation field maintenance, downed aircraft recovery team (DART) operations, ground field maintenance, supply support activity (SSA) field operations, limited re-transmission (retrans) operations, and limited water purification operations. All Soldiers were issued casualty cards similar to those issued at the Joint Readiness Training Center or the National Training Center (NTC), and the battalion arranged for multiple iterations of small arms attacks; indirect fire attacks; and simulated chemical, biological, radiological, and nuclear (CBRN) attacks. All of this was courtesy of a very motivated rifle company as our opposing force.

The headquarters support company (HSC) led the battalion quartering party operations and was also responsible for establishing the base defense operations center (BDOC). They established the Role 1 and set up its ground maintenance platoon, to include the shop portable welder. They performed multiple scheduled services on generators, tactical wheeled vehicles, and weapons, as well as repaired generators and FSSP pumps when they were deadlined. Unfortunately, due to prior commitments with supporting other mission requirements, the support operations officer (SPO) section did not participate in this battalion FTX.

Company A brought multiple SSA BOH Solutions' containers to the field and maintained a small SSA crew at the airfield SSA exclusively for bulk issue and turn in. All other issuances/turn-ins were completed in the field. Company A brought a tactical water purification system to the field and conducted limited training with this equipment due to an Army-wide shortage of the required chemicals to purify water. Company A also established a FARP and set up the

FSSP to refuel aircraft. This was the first time the FSSP had ever been set up and used to refuel aircraft. During this week, the airfield hot point was closed in order to maximize training for the ASB.

For aviation maintenance, Company B coordinated with its sister flight battalions to conduct several more minor scheduled services for a CH-47, AH-64, and UH-60. Simultaneously, Company B also conducted several phases in the hangar.

Company C was mostly consumed to a higher-level exercise, so it only provided retrans support on deployment and redeployment days in and out of the field.

The end result was about half of the battalion in the field. Other detractors from Soldiers participating in the field were as follows:

A Soldier from the 404th ASB Headquarters Support Company welding in the field. Photo credited to the 404th ASB.

- Support to a higher headquarters (HQ) exercise
- The HSC/Company A/Company B combined, sent Soldiers to support an adjacent battalion at the NTC
- Company B kept most of its company in the rear to continue phases
- Company A maintained a small skeleton crew to man the SSA for bulk turn-in/issuances
- Profiles, TDY (temporary duty), terminal leave, and PCS (permanent change of station) leave.

An additional benefit of conducting this FTX was the opportunity for the ASB, CAB, and division leadership to see the size, scope, and challenges of establishing and displacing a CAB BSA. This was achieved by arranging for the CAB commander, CAB command sergeant major, division sustainment brigade (DSB) commander, DSB SPO, division G-4, Army field support battalion (AFSBn) commander, and deputy commanding general-support to come to the field and observe the BSA. This prompted many discussions about significant challenges and considerations for establishing the CAB BSA and displacing the CAB BSA in large-scale combat operations (LSCO). What follows are key lessons learned and important challenges for ASB and CAB commanders to consider when planning to establish, secure, and displace the aviation BSA.

Securing the Aviation BSA

The time has come for aviation units to have a more nuanced discussion about security. There is no doubt that like all units, aviation units must be able to secure themselves. This is non-negotiable. However, this begs the question of how much security is enough security, and at what point does our security level hinder our ability to accomplish our mission? Following completion of our recent battalion FTX, the 404th ASB identified a number of lessons, or planning considerations, for establishing, securing, and displacing the CAB BSA that are worth sharing with the rest of the force.

The Enemy

What type of enemy is most likely to contact the aviation BSA? What are their capabilities? What is the most dangerous and most likely enemy threat to the BSA? Can we expect to be facing a large number of bypassed enemy forces? Will there be a number of civilians on the battlefield? The battalion S-2 must lead this analysis through intelligence preparation of the battlefield and should have the greatest impact on site selection and security.

For our FTX, the battalion had to make up the enemy situation as we went, but it was effective in driving some analysis and forcing our BDOC commander (HSC commander) to reallocate limited resources. This type of analysis will drive hard discussions on where the commander is willing to assume risk. Types of threats are numerous, but the following are worth considering:

Direct Action-These are usually in the form of team-/squad-/section-sized dismounted elements with limited mobility and individual-/crew-served weapons. For our FTX, our security focused more on defending against this type of threat. The battalion employed a large amount of concertina wire, hasty fighting positions, entry control points, and vehicle mounted fighting positions. It was of tremendous training value for our Soldiers to establish this security and prepare a defense, especially with many Soldiers who had never done this to such an extent before.

Long-Range Artillery-Our BSA layout was dispersed into three smaller clusters, which would have helped against an

indirect fire attack via mortars but not as likely with medium- or long-range artillery fire. The battalion was limited in how much it could truly disperse by training area boundaries. Especially in LSCO, terrain management is a significant challenge and a unit might be unable to get the terrain it desires to defend against this threat.

CBRN-Our biggest concern with the CBRN threat for the CAB BSA is the lack of knowledge and resources that exist for treating and processing contaminated casualties in the event of a likely CBRN mass casualty. Given the nature of an aviation BSA, commanders should anticipate and prepare for a CBRN strike against the CAB BSA. Furthermore, given the limited capability in the ASB Role 1, this would require significant external resources for treatment and decontamination operations.

Observers-This can take the form of the local population, special-purpose forces, unmanned aircraft systems, satellites, or other sensors. Our battalion FTX did not replicate this threat, but it is still worth mentioning. We should take great care to maximize use of all available camouflage to mask the location of the aviation BSA.

Bypassed Enemy Forces-This type of threat naturally depends on many variables within the tempo and bypass criteria issued by a division or brigade commander. This threat has the largest impact on the type and size of enemy formations that have been bypassed while on the offense. The size, disposition, and morale of bypassed enemy forces will have a very significant effect on the decision to establish, secure, and displace the BSA.

Terrain and Terrain Management, BSA Layout, and BSA Functionality

The layout of the BSA depends on a number of factors of which the terrain is also critical. Army Techniques Publication (ATP) 4-90, "Brigade Support Battalion," describes a "single base" or "base cluster" layouts (Department of the Army, 2020a). There are strengths and weaknesses for both. Most relevant to our recent FTX, there were critical lessons learned here for leaders of all ranks. Our staff carefully analyzed the provided terrain and came up with multiple courses of action on how to set up and establish the BSA. The staff universally agreed that the provided training area was not ideal to establish the BSA; however, this was not something we could change, so the team made do. In our battalion FTX, the aviation support company (ASC) and FARP were established outside of the BSA perimeter to ensure safe and efficient helicopter operations. These two considerations alone dictate a larger BSA than a traditional brigade combat team (BCT) BSA and must be accounted for when planning for BSA site selection and setup. The logisticians in the battalion provided critical insights to ensure a high degree of functionality for traffic flow, while also not limiting the battalion in terms of organic security:

A photo of the 404th's Company B performing maintenance on an AH-64 in the field. Photo credited to the 404th ASB.

Threat-We've previously discussed what the threat is, so let's go forward with the following questions:

Terrain Management-How much and what types of terrain are available for the BSA? Terrain management is extremely challenging in LSCO. Across an entire division, there are multiple tenants that occupy the massive division support area. The CAB and the ASB must be closely integrated into this planning and carefully articulate size/space requirements to division planners well in advance of when the time comes to displace the division support area and/or BSAs. Although a widely dispersed cluster BSA might be the most prudent for the enemy threat, the bottom line is

that there will only be a finite amount of terrain available to establish the BSA, and the staff will be forced to set up and secure the BSA on the provided terrain.

BSA Unit Occupation-In addition to the ASB, what other units will occupy the BSA? It is likely that CAB headquarters and headquarters company (HHC), CAB main command post (CP), CAB tactical command post (TACCP), elements of the forward support companies (FSC), and the air traffic services company are all possible tenants of the BSA for an extended or limited duration of time. Although each of these footprints may be small, it is critical for the ASB staff to account for these possible tenants when planning the layout and security of the BSA.

Soldiers assigned to the 404th ASB fix fuel distribution equipment at the FSSP. The FSSP is the Army's primary means for the receipt and storage of bulk petroleum and for its issue to combat forces under tactical conditions. U.S. Army photo by SGT Woodlyne Escarne.

BSA Layout-Is the BSA layout functional? Can it accommodate all customers and traffic into and out of the BSA? A BSA must be secure and also functional. The staff worked very hard to develop courses of action that balanced a secure layout with a functional layout. This included allowing safe approaches for aircraft into and out of the FARP, sufficient space for large tactical wheeled vehicles to enter into the BSA to pick up critical supplies, and sufficient space for the ground maintenance platoon to park vehicles that were awaiting maintenance or conduct recovery operations. Finally, Company B established a landing zone where aircraft would be flown in to conduct maintenance. The team also accounted for an easy to understand 'traffic pattern' for ground vehicles entering into the BSA.

Finally, the BSA must also be functional for its occupants. Company B set up in a very condensed area due to terrain constraints. This was not as ideal for threats such as enemy indirect fire attack, but it was very well defended against direct fire attacks. It also made aviation maintenance much easier and efficient, since personnel did not have to walk or drive very large distances between special-purpose aviation maintenance containers and the aircraft. If the space was available and Company B dispersed its footprint, it would have challenged another aspect of security and made aviation maintenance less efficient.

Security and Resources Available (Personnel and Convoy Protection Platforms [CPPs])

As previously stated, all units must be prepared to defend themselves. However, the task of securing the BSA—and more specifically, an aviation BSA—can only be considered in context relative to a number of other factors. Similar to the discussion of BSA layout, the ASB must also consider resources available and identify certain gaps. The point here is that an ASB will never have enough resources to do everything. As a small example, for every additional pallet space of Class IV, there will be one less pallet space available for other critical classes of supply and essential equipment. Or, the ASB can bring everything but add many more turns when displacing the BSA. Like all things, the solution is situation dependent and grounded in good staff analysis. Some other factors to consider when planning for security are:

Location Continuity-How long will the BSA remain in this location? It takes a significant amount of time and continuous effort to improve your security posture. If the threat, terrain, or friendly situation demand the BSA will displace in a short duration of time, it might not be worth building a fortress of concertina wire, pickets, and deliberate fighting positions.

CPP Availability-How many CPPs (gun trucks) are available? When planning our last FTX, the staff quickly realized that CPPs were a critical limiting factor for BSA and convoy security. Simply put, there weren't enough to go around and leaders had to come together and plan accordingly. Maintenance on CPPs was prioritized by the leadership, and CPPs were viewed as a battalion-level rather than just a company-level asset to allow the BDOC commander to adjust security of the BSA where it was most needed.

External Resource Support-Are any external resources available to support BSA or convoy security? Can the ASB coordinate with adjacent units to enhance BSA security? To assume that any unit will receive a resource can be dangerous. It is one thing to be given a resource (military police, infantry, etc.) and another thing entirely to coordinate security with an adjacent unit. The latter is the more preferred course of action and can be planned for with less risk than the former.

Fighter Management Constraints-What are my fighter management constraints? Fighter management is often viewed as a concern for the flight battalions who are performing flight duties. However, given security requirements/posture, FARP operations, the person-

nel required to configure loads and load plans, air and ground maintenance, pre-combat checks/pre-combat inspections/convoy briefs/backbriefs, etc., the available personnel in an ASB get consumed very quickly and the ability to provide some kind of fighter management becomes increasingly difficult.

Mission Requirements-What are my mission requirements? Although critical to secure yourself, the ASB that commits so much combat power to security that it cannot accomplish its mission is either located in the wrong position or is rendering itself combat ineffective. As with anything, there must be a careful balance and deliberate risk analysis by commanders as to how the ASB secures itself while also sustaining the rest of the CAB.

Displacement and Mobility

An aviation BSA has significant mobility challenges. The size and scope of the BSA means BSA displacement must be a very deliberate process and decision. This battalion's analysis indicates that even with support from the division sustainment brigade, we can expect a very lengthy displacement. This is even with near-ideal conditions, such as a 100 percent operational readiness rate, all crews available, a single main supply route being 100 percent available, no weather impacts, etc. This analysis also did not consider the challenges of displacing a BSA while simultaneously supporting and sustaining the CAB during LSCO. The ongoing Russia-Ukraine conflict has renewed emphasis on the importance of mobility and avoiding detection as essential to survivability for CPs. This is undeniably true, but the ASB simply does not have the capability to rapidly displace as often as a BCT or even a CAB main CP. These factors cannot be ignored when having the discussion about mobility and survivability in LSCO. It is prudent that all commanders, but especially ASB commanders, are employing every resource possible and evaluating all possible risks to ensure some kind of mobility or survivability for the aviation BSA.

During our last FTX, the 4th ID DSB Commander, G4, DSB SPO, and AFSBn commander all came out to observe the aviation BSA in the field. It was a very eye-opening experience for these key sustainment leaders to understand the size/scope of the aviation BSA, coupled with the lack of organic capability within the ASB. It prompted a great discussion about what support is necessary to move the entirety of the aviation BSA. The ultimate conclusion was that the aviation BSA cannot move easily, would be a significant decision, and would require significant assistance to displace when considered against all other sustainment requirements in a division.

Command and Control

For this FTX, the battalion learned a number of lessons regarding command and control of the ASB and the BSA. The biggest takeaway was that the ASB can expect to be split at two, likely three, and as many as four different locations in order to accomplish its mission and sustain the CAB in LSCO. This presents challenges with command and control and security at several locations for the ASB. What follows is a summary of these different locations:

Aviation BSA "Main"-The main CAB BSA will be the 'hub' of sustainment. This will include the ASB main, SPO, Role 1, ground maintenance platoon, SSA, an element of the ASC for aviation maintenance, the ammunition transfer holding point, and the signal company HQ. It is assumed that HHC CAB, the CAB main, and elements of the FSCs may also be located within the BSA for a limited duration, task, and purpose.

ASC Phase Maintenance-As the fight moves forward in LSCO, the CAB will execute phase maintenance. Combat phases in ATP 3-04.7, "Army Aviation Maintenance" notwithstanding, once a phase is begun the aircraft is not very easily put back together and moved again (Department of the Army, 2000b). Our battalion duplicated this setup by having Company B continue to execute phase maintenance at Butts Army Airfield at Fort Carson, Colorado, which for the purposes of our scenario, we defined as either the sea point of debarkation or the corps support area. Meanwhile, the remainder of Company B deployed farther forward with the main BSA, conducted more routine scheduled/unscheduled maintenance, were postured to conduct DART, and provide field maintenance teams as required. These split operations required Company B to conduct a distributed production control meeting, which they were able to execute through

Photo of Company B, 404th Aviation Support Battalion, at the aviation support company's area of operations during the FTX. Photo credited to the 404th ASB.

frequency modulation radio and send reports back and forth via joint-capabilities release.

FARP/FSSP-Considering the size of the FSSP, the space required to bring aircraft in safely, terrain challenges, and the signature created by aircraft coming into and out of the FARP, it is worth considering having the FARP/FSSP dislocated from the BSA main. This also challenges the FARP and the ASB to provide security for such a critical asset.

"Other"-This can include mobile forward logistics elements (FLEs), field maintenance teams, and other supporting elements for the CAB main CP. Given the necessity for critical CPs to displace frequently, our current understanding of the security relationship between the CAB main CP and ASB needs revision. Given the need for rapid CP displacement, the ASB must adapt accordingly to ensure security and sustainment for the CAB main CP. The aviation BSA cannot displace as rapidly as the CAB main CP or TACCP. However, it is the ASB that provides the security and sustainment for the CAB main CP in the BSA. The question that must be answered now is, does it still fall to the ASB to provide security whenever the CAB main CP displaces, even if it's well outside of the BSA? If so, this forces the ASB to operate even more dispersed as it will likely require a security, ground maintenance, medical, Class I and Class III FLE to detach from the ASB and displace with the CAB main CP in order to provide the needed support.

FLEs. In light of some of these challenges, the battalion is going to experiment with a concept of how to solve some of these problems in future battalion and CAB FTXs. The concept at this time is to establish the CAB BSA in an area that is out of medium-range enemy artillery and faces minimal direct-action threats. In order to provide sustainment for ever-increasing lines of supply, the ASB would establish two FLEs, which would deploy further forward and temporarily set up to sustain the CAB. These FLEs would remain in place for only a limited duration of time and would bound forward and return to the aviation BSA as necessary. The FLEs would be tailored based on requirements but would likely consist of a small Role 1 with field litter ambulance, ground maintenance section, Class I, Class III, Class V, and a recovery capability. By employing two FLEs, it would allow the ASB to focus on providing uninterrupted support while maintaining mobility and survivability to sustain the CAB. This keeps continuous support while the main aviation BSA remains generally static until there is time and/or resources available for a more deliberate displacement. The employment of FLEs would limit the ASB in other areas (mainly aircraft refueling) meaning the ASB would likely have to focus more on fuel distribution to the FSCs. For command and control of the FLE, there are no doctrinal requirements; however, based on the size/purpose of the FLE, it can be a platoon leader or as high as the SPO or battalion commanding officer.

In conclusion, the 404th ASB deployed to the field for a battalion FTX and established the BSA. This allowed the battalion to clearly see itself and identify some best practices, as well as learn some critical lessons that are worth sharing with the rest of the Aviation Enterprise. In the coming months, the 4th CAB and the 404th ASB will continue to expand on these lessons learned and make improvements in order to better provide sustainment and support for the CAB in LSCO.

Biography:

LTC Steve Sevigny is currently the Commander of the 404th ASB. He previously served as the senior aviation trainer for Operations Group Bravo, mission command training program (MCTP), with a total of 3 years of service as an observer coach/trainer with MCTP. He served as the S-3 and executive officer of the 4th Battalion, 3**D** Aviation Regiment, and served in the G35 and G5 of the 3**D** Infantry Division.

CPT Caroline Smith is the S-3 for the 404th ASB. She is a logistics officer, who previously served as aide-de-camp to the CG of the 593**D** Expeditionary Support Command, Joint Base Lewis-McChord. Prior to that, she served as a distribution platoon leader, maintenance control officer, and S-4 in the 2**D** Stryker Brigade Combat Team, 7th Infantry Division.

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A photo of the 404th ASB's FARP with aircraft in line. Photo credited to the 404th ASB.

The Fix

By SSG Steven Perricone

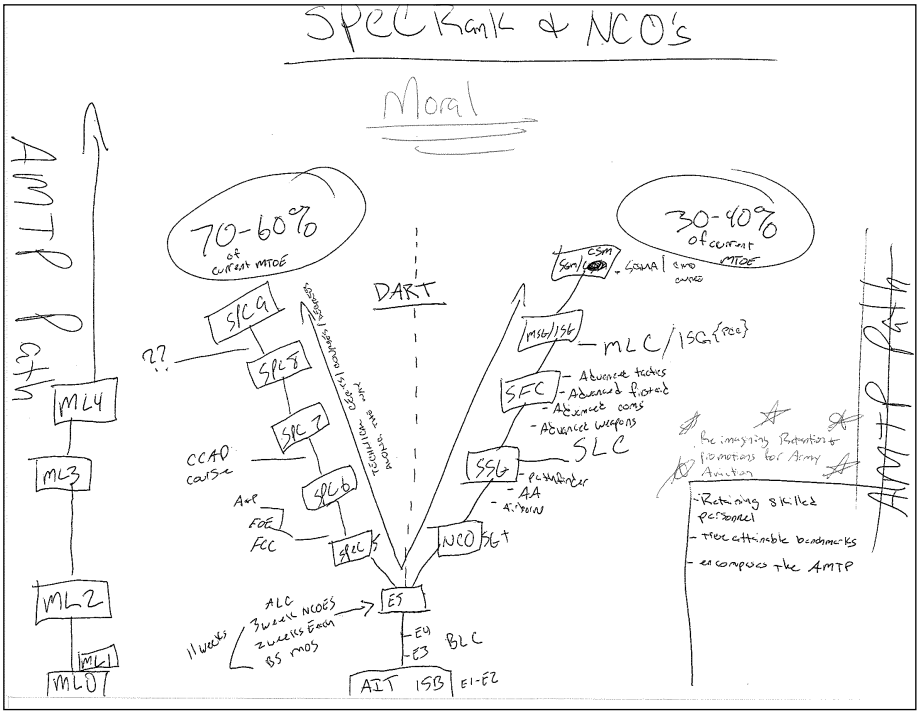
The views expressed are those of the author and do not reflect the policy or position of the Defense Health Agency, the Department of Defense, or the United States Government

When I was a young PFC, I followed the example of my peers and continually complained about everything. After a few weeks of hearing my never-ending list of complaints at my first duty station, my squad leader, SSG Stewart, had a very direct conversation with me. In summary, he told me that if I was going to complain about something, I had to offer a solution to make it better. This lesson is something I never forgot and was the catalyst for the "fix" to the current noncommissioned officer (NCO) promotion system I will outline in this article.

Ten years after my talk with SSG Stewart, I was in a deep discussion with a peer, SSG Cabrera, about the current promotion system and some of its problems. Throughout the discussion, we discovered a number of viable solutions we believed could fix these problems. I jotted everything down on the back of an old grade sheet. Afterward, we looked at our work jokingly and said it was a great idea, but it was too bad the Army would never buy it…but why not?

We decided to ask dozens of NCOs, from a brigade CSM down to a newly Promoted SGT, how they would describe the current U.S. Army NCO promotion system. The answers were enlightening. Descriptions included "broken, demoralizing, exhausting, outdated, and untimely," to list a few. The consensus was that it was not easy to navigate, and the process has a negative connotation.

In 2015, SGM Dan Elder (Ret.) wrote the article, "Bring back the Specialist Rank?" This article took an in-depth look at why the colloquially named "SPEC" (SPC) ranks were created and why they ultimately failed. After examining the article, I was able to gain a clearer understanding of the holes in the SPC rank system (Elder, 2015). So, there it is—I want to bring back the "SPEC" ranks—and I have a plan on how to do it.



Original plan for the fix. Old grade sheet drawing created by the author.

When first beginning to address the problem, SSG Cabrera and I started with the question, "What is really wrong with our current promotion system?" From my personal perspective, it is exhausting. As a 15B, Aircraft Powerplant Repairer, I will compete with not just other SSGs in my military occupational specialty (MOS), but all the SSGs that are 15D (Army Aircraft Powertrain Repairer), 15G (Army Aircraft Structural Repairer), and 15H (Aircraft Pneudraulics Repairer) for the coveted title of 15K (Army Aircraft Components Repair Supervisor). It is this very competition driven by aviation back shops' MOS merging to become 15Ks that is the problem. Hundreds of back shops' SSGs are all competing for roughly 75 15K slots in the Army. To be competitive, one must consistently receive a most qualified (MQ) designation and have a low order of merit list (OML) number. To earn this designation, a Soldier must consistently display a high level of fitness, mental agility, innovation, leadership, extending influence beyond their chain of command, high-level communication, constantly increasing education levels, and constantly and consistently getting results. This perpetual strain drives back shop NCOs to constantly chase NCO evaluation report bullets to perform well for a promotion board, which share very little criteria. When the promotion board convenes in the second quarter, three CSMs look at the SSG board file consisting of their last three NCO evaluation reports and their Soldier Record Brief. There are hundreds

A UH-60L Black Hawk returns from a maintenance inspection flight at Camp Marmal, Afghanistan, during Task Force Ready. U.S. Air Force photo by TSgt Parker Gyokeres.

of SSGs who are reviewed, and the CSMs only have a few minutes to review the documents. Either way, those CSMs rank the SSGs from the first person all the way down to the last. This creates the OML.

Year after year, droves of SSGs grow physically and psychologically exhausted operating under this system. More recently, this system has led to burn out and driven many strong NCOs out of the Army. The system essentially leads to the opposite effect of the Army Chief of Staff, GEN McConville's mantra of "People First."

The Army must next ask these questions: "Is this the right time to make the change back to the times when SPC ranks were a part of the rank structure within the force," and "Is this overhaul really needed?" To both questions, I would argue the answer is a resounding YES.

For the first question, you only need to look at the U.S. Army Aviation Center of Excellence's army.mil page.[1] As you read through the vision, mission statement, the key tasks, and priorities, the interwoven theme is technology. As technology continues to develop, we must develop our training to keep pace. Training drives our ability to operate at the high level, which has helped the Army keep its footing as a world military superpower. Having men and women focus more on their technical expertise will only further strengthen the Army's position in that role.

To the question, "is this the right time for this?" I honestly believe that there may never be a better time for this change. By examining the retention rates of senior Soldiers in the Aviation Branch, one quickly notices that many are drawn to opportunities that will provide them with licenses or certifications. The two options currently in place are **a)** Spend limited spare time pursuing these license or certification goals; thus, sacrificing moments that they could share with family and friends or working on their mental health; or **b)** Separate from active duty, typically making more money with less work hours and get paid to pursue the same certifications.

Additional challenges present themselves with the young men and women the Army is actively trying to recruit. Leaders trying to recruit these young men and women must examine what the Army has to offer that the largest commercial airlines in the world, do not. In the end, the Army is purely relying on the patriotism of young Americans to join instead of giving them a reason to do so. Our competition can pay better and offer similar benefits. If we wait for the right time to make a change in our Army, we will never find it, and the opportunity will be nothing more than a dream.

So, what jobs will the SPC ranks perform? The answer is just that–their jobs–or what we in the Army call their MOS. Their focus will remain on the technical aspects of their job. By focusing on their technical expertise and taking advantages of licensing and certification programs that currently exist in the force, the Army can compete more with the world's top commercial airline companies. Furthermore, this lessens the burden on these Soldiers by giving

[1] https://home.army.mil/novosel/index.php/about/usaace

them clear expectations for career advancement requirements. No longer will these Soldiers have to chase every bullet to try and maintain an MQ on their NCOER. Their path will have consistent implementation across their respective branch–expectations that are predictable with no merging of an MOS.

After all the focus on technical aspects of the job, a logical question would be "What will happen to tactical proficiency if there is so much focus on the technical aspect?" First, the Army must establish that those who choose to remain NCOs or choose the NCO career path will have a career focused on leadership and tactical development. The Army NCO Education System (NCOES) schools, from the Advanced Leader Course (ALC) through the SGM Academy, will adjust its curriculum to focus more on tactical proficiency and further develop the leadership training already offered. Noncommissioned officers broadening assignments, military training opportunities, and key developmental slots will follow suit in the new career model.

These Soldiers will only be required to maintain a Maintenance Level 1 designation (Journeyman) in accordance with Training Circular (TC) 3-04.71, "Commander's Aviation Maintenance Training Program" (Department of the Army, 2020) to make sure they understand basic maintenance tasks performed within their formations. The primary focus on the leadership and tactical proficiency, the same as with the SPC ranks, will lessen the burden and burn out the current promotion system creates (Figure 1).

The SPC ranks will begin their career path like all other Soldiers. They will attend Basic Training and Advanced Individual Training (AIT) and PCS, or permanent change of station, to their unit like any other PV2 or PFC. Prior to attending the Basic Leaders Course (BLC), all Soldiers will attend a class taught at the company level, teaching about the decision point where Soldiers will elect to become SPCs or NCOs. This class will discuss the benefits and potential issues Soldiers will face throughout their careers (choosing either) and stress the importance of teamwork between both lanes. Upon course completion, if a slot becomes available, the Soldier can elect to move up to mid-level technicians (SPC 5) and their career path will be that of a technician. Their leadership, key developmental, broadening, and military training will be focused on technical proficiency, maintenance, and maintenance management. They will also be required to utilize the entire breadth of TC 3-04.71 (Department of the Army, 2020) for promotions and evaluations.

The Army will accomplish this by creating three new technician schools that correspond to the NCO courses. Where SGTs attend ALC, SPC 5s will attend the Advanced Maintainers Course (AMC). This course will develop mid-level technicians' maintenance skill set while providing lessons on mentoring techniques and strategies. This will provide commanders with a polished and prepared mid-level technician who is ready to provide top-notch maintenance capabilities and mentorship to junior technicians. Over a 6-week timeframe,

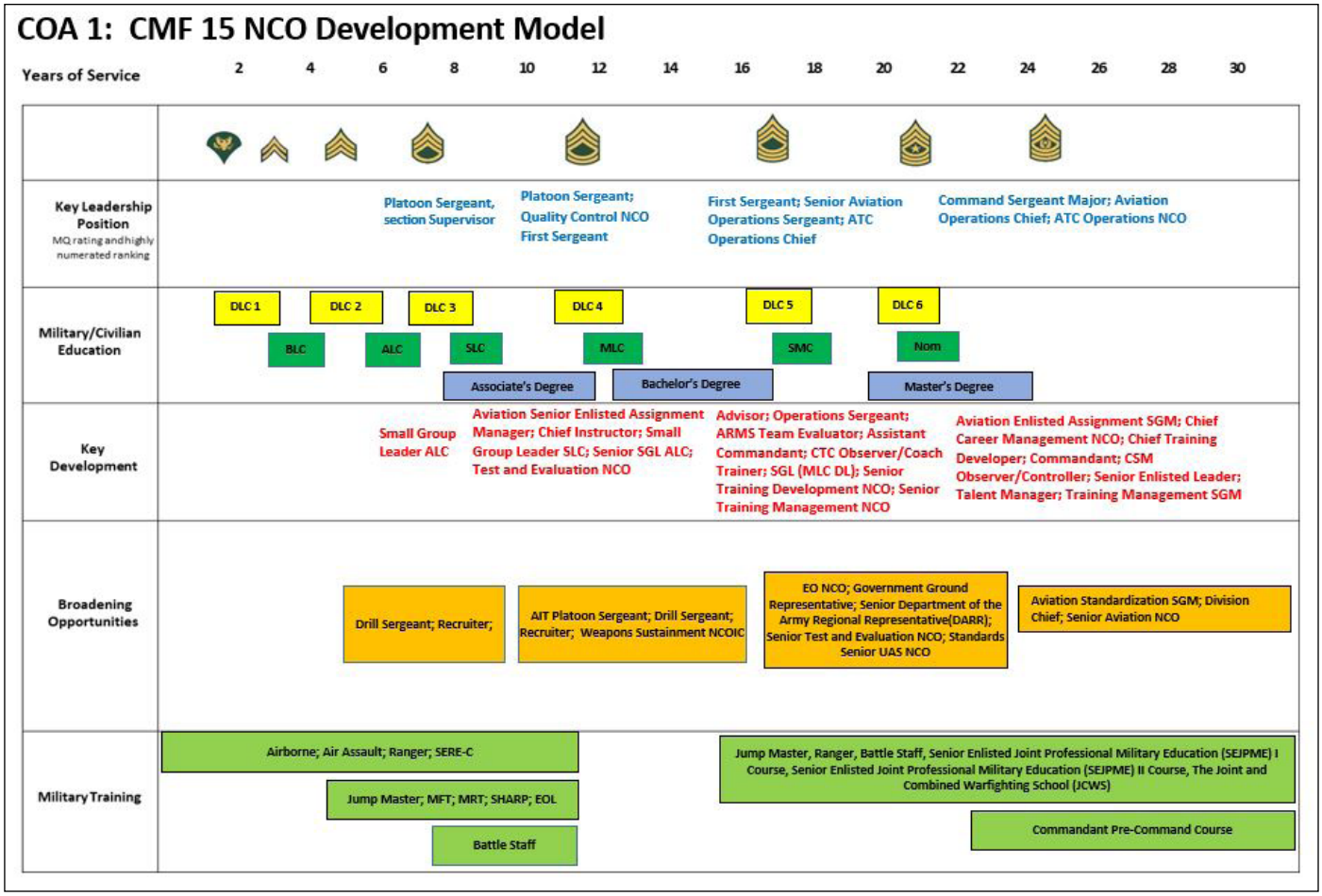


Figure 1. Career management field 15 NCO development model. Model created by SSG Steven Perricone.

cadre will instruct mid-level Technicians (SPC 5s) in advanced Army Aviation maintenance techniques. The goal will be to reinforce skills developed through on-the job training (OJT) after AIT and to teach more advanced maintenance skills to provide the mid-level technician with a stronger knowledge base. Students will receive training outside of their MOS to deepen their overall understanding of aircraft maintenance and to prepare them for when they have a larger role within their formations. In addition, technicians will receive Logistics Assistant Representative (LAR) training at LAR University, Fort Lee, Virginia,[2] to deepen their understanding of depot-level maintenance. With this new skill set, units will have the ability to perform higher level repairs, saving both time and money. This facility should be on the Corpus Christi (Texas) Army Depot footprint, allowing quick access to the depot facility for training and to be near LAR University. While attending this schooling, there would be several certification opportunities that would require an out-of-pocket cost but could be recouped utilizing Army credentialing assistance and Tuition Assistance, or the GI Bill.[3]

As SSGs go to Senior Leaders Course, SPC 6s will head to the Senior Maintainers Course (SMC). This course will develop the upper-level technician's maintenance skill set while providing lessons on maintenance management, mentoring techniques and a broader overview of maintenance planning. This will provide commanders with a polished and prepared upper-level technicians ready to provide superior maintenance capabilities, mentorship, and maintenance management to junior and mid-level technicians, while also preparing them for maintenance management positions within their formations. Over a 5-week span, cadre will instruct upper-level technicians (SPC 6 and SPC 7) in advanced Army Aviation maintenance, maintenance management techniques and strategies, and command supply discipline. The goal will be to reinforce skills developed through OJT, completion of the AMC, and to teach mid-level maintenance management skills to further prepare them for roles such as Platoon Production Control (PC), Technical Inspector, or AIT Instructor. Students will discuss and practice advanced maintenance techniques and take part in maintenance management classes, as well as deepen their mentorship and management skills through Lean Six Sigma Green Belt, in person and in online classes.[4]

Finally, as SFCs attend the Master Leaders Course, SPC 7s will go to the Maintenance Management Course (MMC). This course will develop top-level technicians with the maintenance management skill set, while providing lessons on maintenance management, forecasting, distribution, scheduling, PC of maintenance workloads, and a broader overview of strategic maintenance planning. This will provide commanders with a polished, prepared seasoned and capable top tier technicians ready to provide the highest level of maintenance management capabilities, strong communication skills, and the ability to successfully mentor all level technicians, while also preparing them for maintenance management positions within their formation. These would be roles such as Company PC, Battalion Aviation Maintenance Officer (BAMO), and Support Operations Officer (SPO). Over a 4-week time frame, cadre will instruct

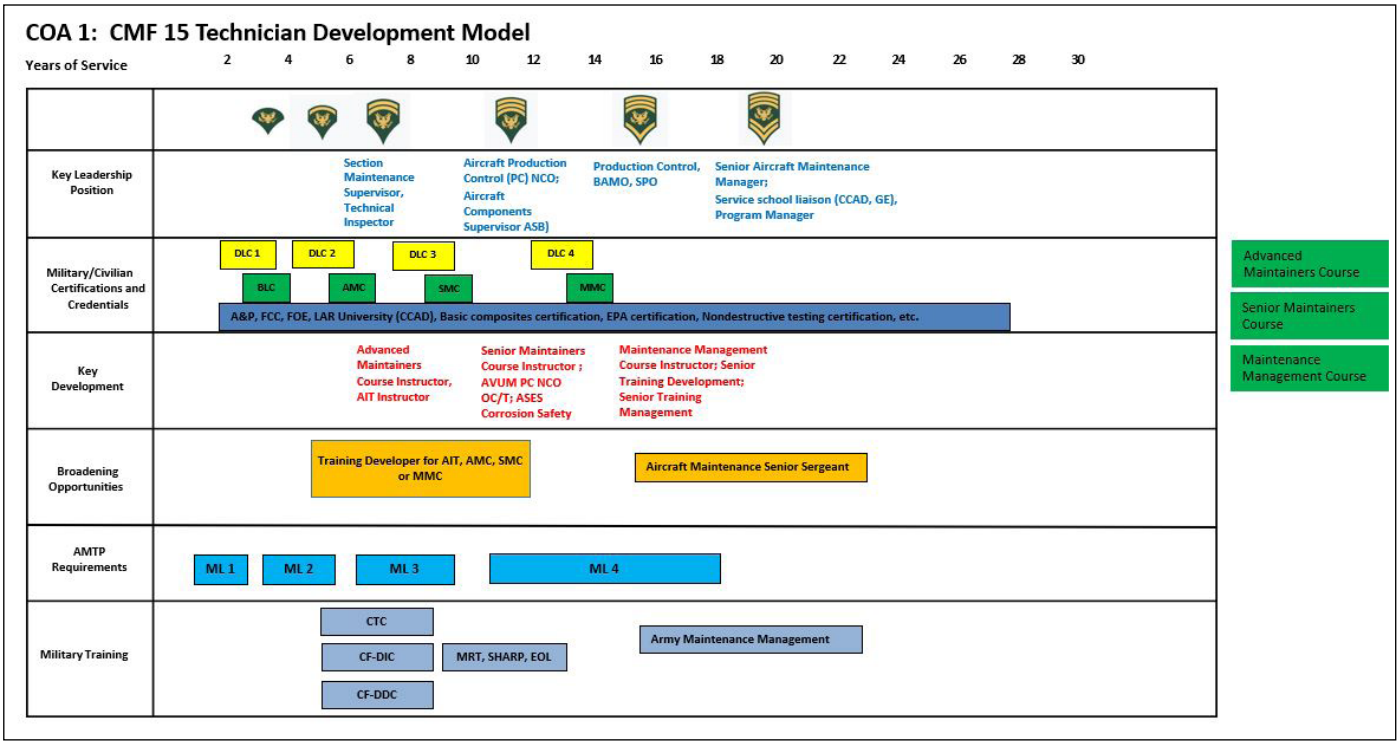


Figure 2. Course of action 1: Career management field 15 technical development model. Model created by SSG Steven Perricone.

[2] For more information about LAR training, visit the Army Logistics University's webpage at https://alu.army.mil/

[3] Learn more about the Army Credentialing Assistance and Army Tuition Assistance Programs at: https://info.medcerts.com/. Information on the GI Bill is available at https://www.goarmy.com/benefits/while-you-serve/education-training/gi-bill.html

[4] Learn more about Lean Six Sigma Green Belt educational opportunities at Army IgnitED, an Army-launched educational initiative at https://www.amu.apus.edu/military/armyignited.html

upper-level technicians (SPC 7 and SPC 8) in advanced Army Aviation maintenance and maintenance management techniques and strategies. The goal will be to reinforce skills developed through OJT, completion of AMC, SMC, and to teach top-level maintenance management skills to further prepare them for roles such as company production control (aviation support battalion, BAMO, or SPO). Students will discuss and practice advanced maintenance management techniques and take part in maintenance management classes, as well as strengthen their mentorship and management skills through Lean Six Sigma Black Belt in-person and online classes.[5] The facility will work on the same footprint as AMC. Prior to graduating, MMC students will meet with training developers at AMC to discuss any recommended adjustments to their curriculum to constantly keep the training at AMC current and relevant to forces operations (Figure 2).

As the proposed model focuses on the future, I have considered what can be done for those currently serving. I believe TC 3-04.71 (Department of the Army, 2020) offers the way through formal evaluations. First, Human Resource Command would need to adjust aviation brigades' modified table of organization and equipment to accommodate the change and publish requirements through a military personnel message for those wishing to switch career lanes. Next, through proper implementation of the Aviation Maintenance Training Program for evaluations and utilization of the new maintenance schools as a career benchmark in the same manner of NCOES schools, the Army could make these changes a reality. An example of what would be required is a SSG wishing to switch to SPC 6. This Soldier would need to pass five consecutive successful 10-level evaluations, eight consecutive succcessful 10-level evaluations, eight consecutive successful 20-level evaluations, three consecutive successful 30-level evaluations, and be a BLC graduate, as well as an AMC graduate or have a class date.

To avoid the mistakes that led to the overall failure of the SPC ranks in the 70s and 80s, the Army must address several things. First, there will be no additional pay for SPCs to maintain their level of proficiency. In the past, SPCs received "pro pay" that was given as an incentive for performing specific tasks. Specialists will, however, be required to maintain their level of proficiency or face the same consequences as when an NCO fails to meet standards. Specialists will have to perform routine Soldier tasks such as staff duty, guard duty, etc., pass the Army combat fitness test, and qualify with their primary weapon. This will help build a culture of cooperation and fairness between NCOs and SPCs. As senior leaders add perks for one lane or take something away from the other, they must do so equally, or there will forever be the grumbling that inevitably breeds low morale.

In respect to troop morale, we believe the creation of SPC ranks will result in happier, more satisfied Soldiers based on their new ability to choose the career lane they truly want to pursue. In return, Aviation will have more technically sound career maintainers to produce combat power more quickly in a way that truly promotes "People First."

Biography:

SSG Steven Perricone has served 13 years in Army Aviation as a 15B Aircraft Powerplant Repairer. He has been assigned to the 159th Combat Aviation Brigade (CAB), 101st Airborne Division, Fort Campbell, Kentucky; 2**D** CAB, 2**D** Infantry Division, Camp Humphreys in South Korea; 3**D** CAB, 3**D** Infantry Division, Hunter Army Airfield, Georgia; and 128th Aviation Brigade, Fort Eustis, Virginia. During that time, he served as a maintenance supervisor, squad leader, section sergeant, instructor, and training manager. In 2011, he deployed in support of Operation Enduring Freedom in Afghanistan and in 2019 did a rotation in support of Operation Atlantic Resolve in Germany

[5] Learn more about Lean Six Sigma Black Belt educational opportunities at Army IgnitED, an Army-launched educational initiative at https://www.amu.apus.edu/military/armyignited.html

References:

Department of the Army. (2020, December 14). *Commander's aviation maintenance training program* (Training Circular 3-04.71). https://armypubs.army.mil/epubs/DR_pubs/DR_a/ARN35785-TC_3-04.71-001-WEB-2.pdf

Elder, D. (2015, March 12). Bring back the specialist rank? *NCO guide: US Army NCO commentary.* https://ncoguide.com/bring-back-the-specialist-rank/

Soldiers perform routine maintenance on an AH-64 Apache helicopter at Wheeler Army Airfield, Hawaii. U.S. Army photo by SGT Sarah D. Sangster.

Family Planning for the 21st Century Army Aviatrix

1st Air Cavalry Brigade UH-60M Black Hawk helicopter lands in Powidz, Poland, February 26, 2022. U.S. Army photo by CPT Taylor Criswell.

The views expressed are those of the author and do not reflect the policy or position of the Defense Health Agency, the Department of Defense, or the United States Government

By CPT Ashley Hendrickson Howard

Ask any female Army Aviator today about their current understanding of how starting or growing their family will affect their professional flying career and generally, the common misconception is that it will take them out of the cockpit for at least a year and potentially alter the trajectory of their tactical relevance for the next few years, if not the rest of their career. As a current female Army Aviator assigned as a UH-60M Instructor Pilot in support of Flight School XXII at Fort Rucker, (Novosel), Alabama, who is also 8 months pregnant at the time this article was drafted, I can say due to very recent experience that this is no longer the case.

The perspective of the Aviation community, like many other areas of our expertise, is still founded in the experience cultivated for many of our senior leaders by the regulatory environment in which they developed over the course of the last 20 years. My mother conceived me here at Fort Rucker, (Novosel), just over 30 years ago while on flight status in support of Flat Iron, the resident medical evacuation company. In those days, a positive pregnancy test was a grounding condition through the duration of pregnancy until cleared postpartum by the obstetrician-gynecologist and the flight surgeon to return to flight status. If you multiply approximately 1 year away from the aircraft by the three children she went on to have over the course of her 20-year career as an Army Aviator, the outcome is nearly 20 percent of her career spent out of the scope of professional relevance as a pilot. When an Army officer's career progression includes additional time away from the aircraft to meet professional military education, key development, and broadening time requirements, a female Army Aviation Officer's flight career in those days was significantly impacted by their family planning decisions. In my mother's case, this drove her to diverge from the flight path altogether and become an Operations Research and Systems Analyst. In the case of other female aviators over the years—it drove them out of the cockpit—or in some cases, out of the military altogether.

Howard performing C2 operations at Fort Hood, Texas.

Thanks to the focus on revising the military's perspective on the professional and career impacts of pregnancy in recent years, positive changes have been made that no longer require female aviators to make a choice between being an aviator or being a mother. The current Aeromedical Policy Letter (APL) states "temporary aviation duty is authorized in uncomplicated, low-risk pregnancies in aircrew who have no comorbidities and have received clearance to work without restrictions from their obstetrical care provider. Class 2 and 3 personnel are restricted to flying between gestational weeks 12-28, roughly corresponding to the second trimester. Class 4 personnel who meet the above requirements have no trimester restrictions"[1] (Department of

[1] The current Aeromedical Policy Letter is accessible via the Military Health System and Aeromedical Electronic Resource Office websites to those with a valid common access card (https://aero.health.mil/).

All photos credited to CPT Ashley Howard

Howard's mother, a maintenance manager, at an MTP Course, 1991.

Howard's mother at her Change of Command, Fort Rucker, 1992.

the Army [DA], 2021, p. 163). Additionally, "Aviators meeting all listed trimester restrictions and consultation requirements may fly in either fixed or rotary wing aircraft limited to <10,000 feet cabin altitude with dual pilot status but should be thoroughly counseled on the potential risks" (p. 163). The APL goes on to define those potential risks in terms of risk to the mother and developing fetus due to the incomplete understanding of the impacts of "vibrations, excess G forces, [noise exposure], exposure to aviation fuel, prolonged immobility, pressure variations, hypoxia and exposure to crash dynamics" (p. 163); additional risk is to the aircrew as a result, minimally, of vision changes and sleep disruption coupled with the plethora of physiological changes that occur in a woman's body over the course of pregnancy. To balance these risks, the APL provides three key recommendations. First, "synthetic flight training (simulator) should be maximized in an effort to maintain necessary skills and Readiness Level (RL) status" (DA, 2021, p. 164). Second, along with the medical/obstetrical assessment of each individual patient, the choice to continue flying or how much to continue to fly must be a joint and informed decision between the pilot, the aeromedical provider, and the obstetrical care provider and should include an assessment of the unit, the mission, the airframe, and specific flight duty of the pregnant aircrew member. Last, just as it's imperative to remove the negative impacts on female aircrew members' careers or professional status, it is important to "cultivate an environment that empowers an aircrew member to self-ground if necessary" (p. 164).

Howard's mother and grandfather at a Flight School Graduate Ball in 1987.

Due to the nature and timing of my own pregnancy, paired with the support of my command and the U.S. Army Aviation Center of Excellence (USAACE) aeromedical providers, I have been fortunate enough to remain relevant to the USAACE Flight School XXII mission, either in the cockpit or in the simulator with students for the duration. Armed with the confidence and trust from my medical team that as a professional aviator, I will acknowledge my own limitations as they may occur on any day—even while out conducting training at the flight controls—I have proven that given the right conditions and climate, it is absolutely possible to continue to serve in the way all aviators signed up to without sacrificing the desire to have a family. While every pregnancy and every potential mother's choices differ, I am thankful for the changes within our Branch's regulations that made it possible to log 150 hours of copilot time with my son in-utero, and I look forward to seeing him join our Aviation family at his own set of flight controls one day.

Biography:

CPT Ashley Hendrickson Howard is a third-generation Senior Army Aviator and graduate of the University of Virginia, where she commissioned in 2014. She completed her command as "Vulture 06" for Company A, 2**D** Battalion, 227th Aviation Regiment, 1st Air Cavalry Brigade, Fort Hood, Texas. Her additional key assignments include S3-Air, 1st Air Cavalry Brigade; Airframe Repair Platoon Leader, Company D, 3**D** General Support Aviation Battalion (GSAB), 2**D** Combat Aviation Brigade, South Korea; and Executive Officer, D/3-2 GSAB. CPT Howard currently serves as the Doctrine Branch Chief, Doctrine and Tactics Division, Directorate of Training and Doctrine, USAACE, in addition to her duties as a UH-60 L/M Instructor Pilot in support of FS XII. She is accompanied in service by her husband, CW2 George Howard, CH47 SP/IE, and their two Rhodesian Ridgebacks. Editor's update: The Howards welcomed their son, Keith, in mid-February.

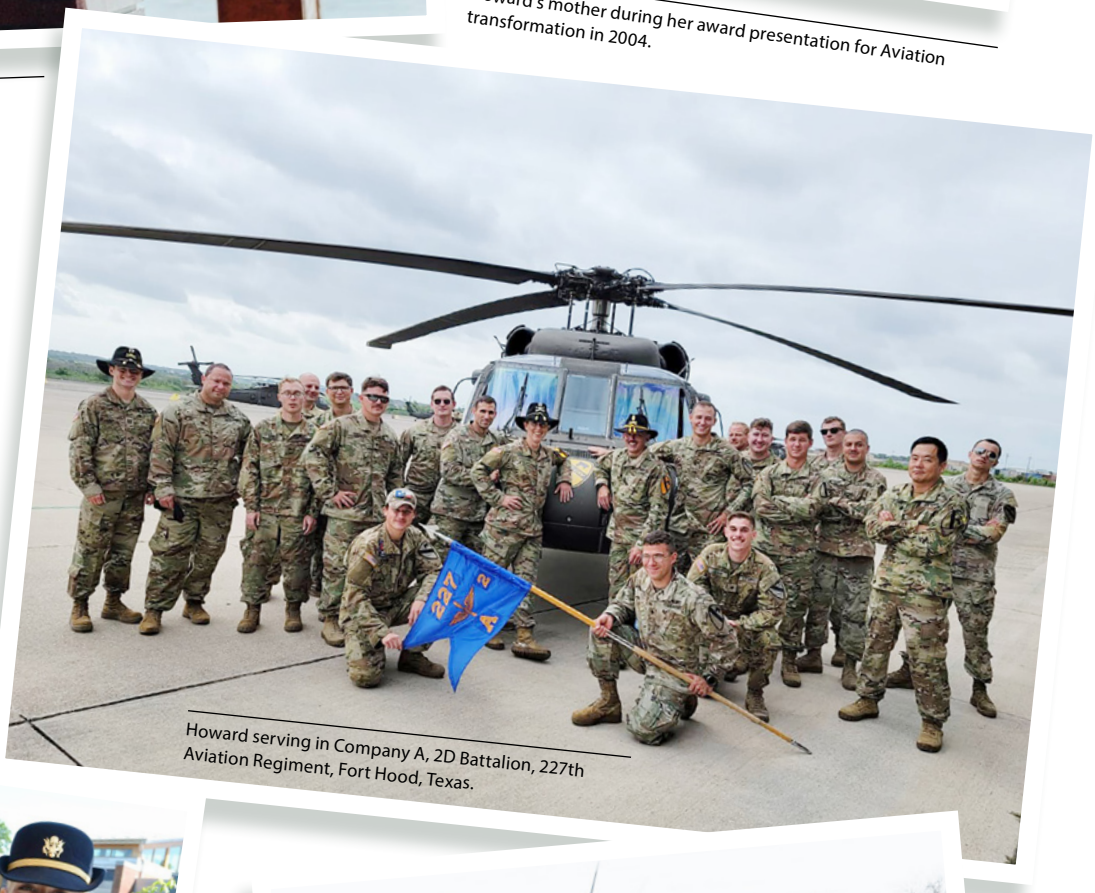
Reference:

Department of the Army. (2021, December). *Aeromedical policy letters and aeromedical technical bulletins*. U.S. Army Aeromedical Activity.

Howard, giving a Change of Command speech in July 2021.

Howard's mother during her award presentation for Aviation transformation in 2004.

Howard and her husband at a Change of Command ceremony, July 2021.



Howard serving in Company A, 2D Battalion, 227th Aviation Regiment, Fort Hood, Texas.

Howard and her mother at the University of Virginia's Reserve Officers' Training Corps' Commissioning, May 2014.

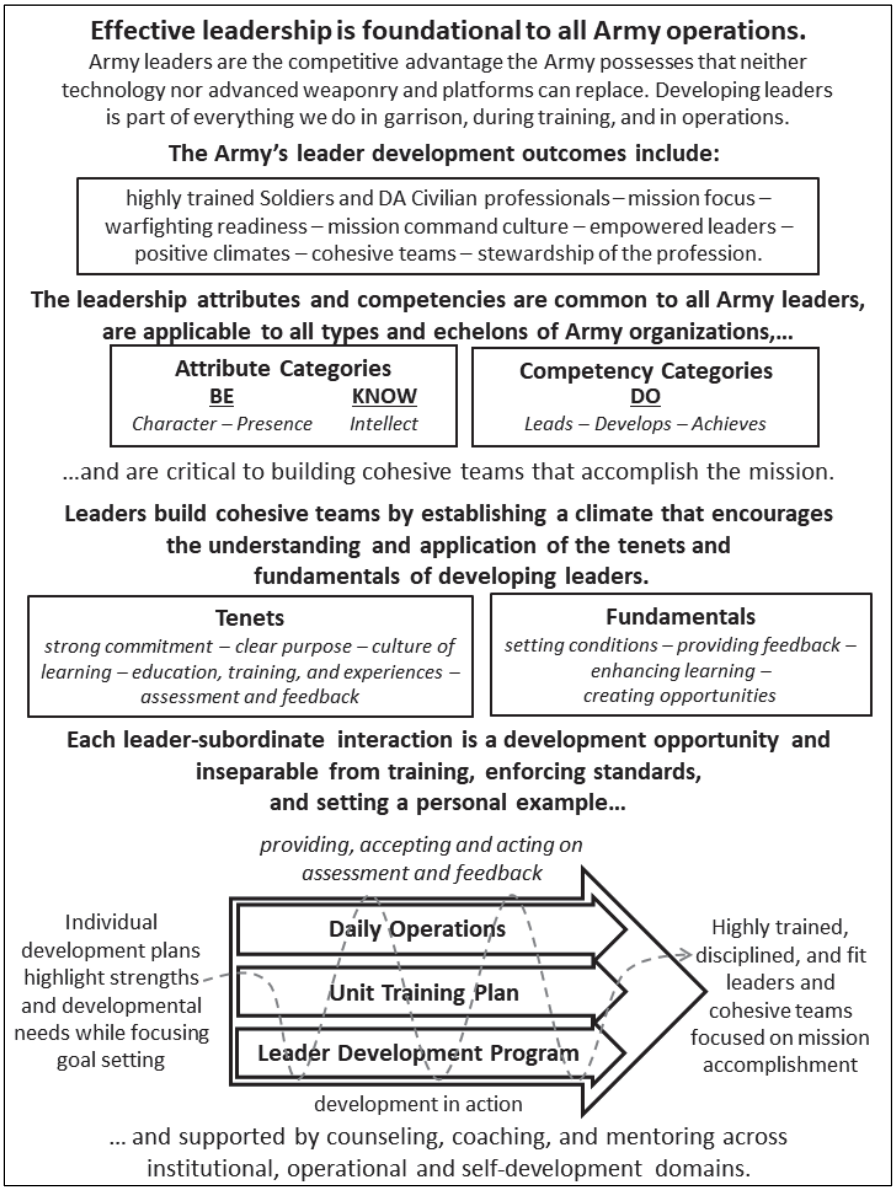
Howard (inside helicopter, right side) during Pegasus Forge V, A 1st Cavalry, division-level training event.

Leadership Resource Quick Guide

"An *Army leader* is anyone who by virtue of assumed role or assigned responsibility inspires and influences people by providing purpose, direction, and motivation to accomplish the mission and improve the organization" (Army Doctrine Publication 6-22).

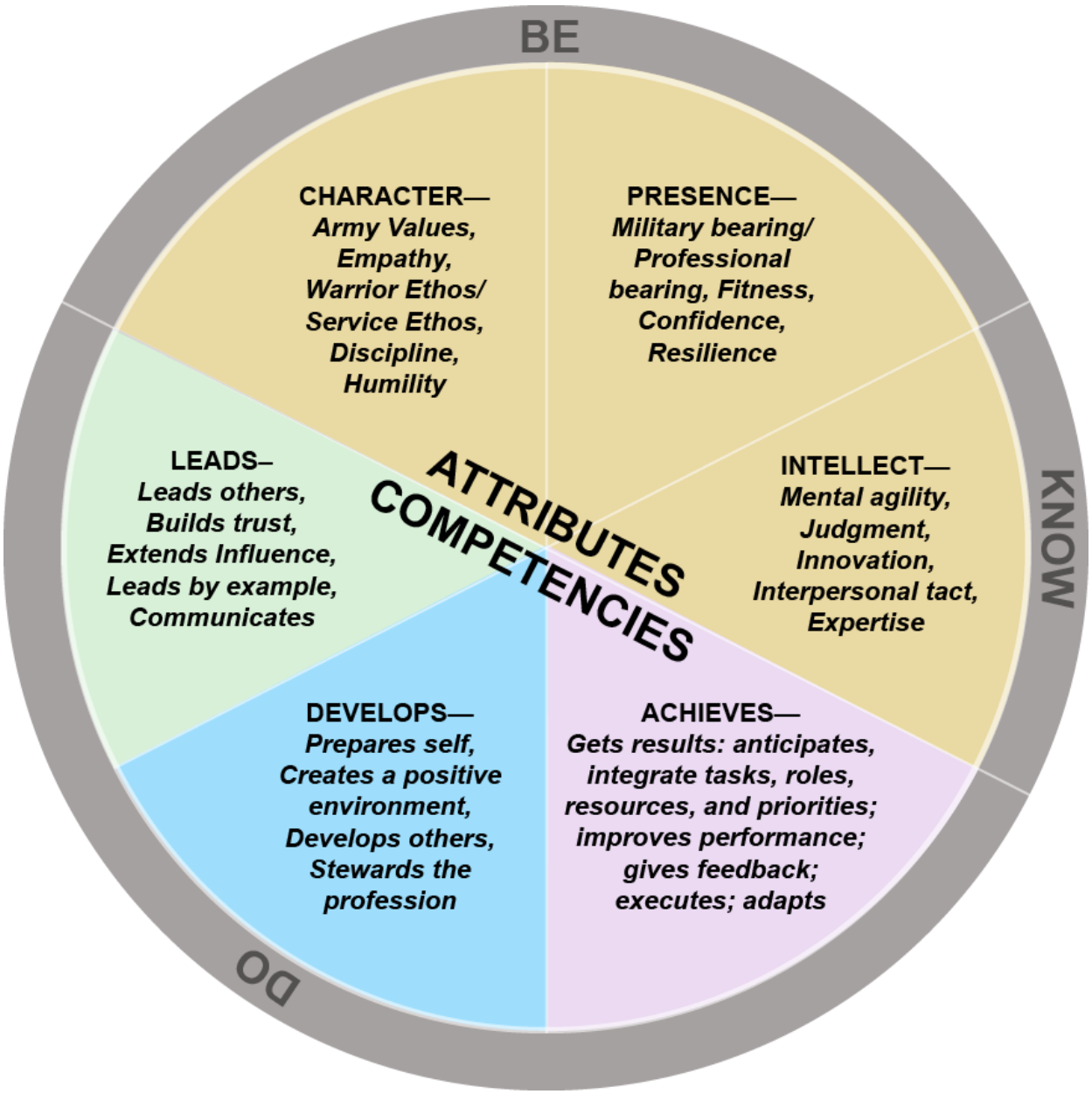
Doctrine Resources:

Field Manual 6-22, "Developing Leaders" (2022)
https://armypubs.army.mil/epubs/DR_pubs/DR_a/ARN36735-FM_6-22-000-WEB-1.pdf



Logic chart for developing leaders taken from Field Manual 6-22 (2022, p. x).

Army Doctrine Publication 6-22, "Army Leadership and the Profession" (2019)
https://armypubs.army.mil/epubs/DR_pubs/DR_a/ARN20039-ADP_6-22-001-WEB-0.pdf



Leadership requirements model from Army Doctrine Publication 6-22 (2019, p. 1-3).

- Army Doctrine Publication 3-0, "Operations" (2019)
https://armypubs.army.mil/epubs/DR_pubs/DR_a/ARN18010-ADP_3-0-000-WEB-2.pdf

- Department of the Army Pamphlet 350–58, "Army Leader Development Program" (2013)
https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/p350_58.pdf

- Army Regulation 350–1, "Army Training and Leader Development" (2017)
https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/ARN18487_R350_1_Admin_FINAL.pdf

- Army Regulation 600-100, "Army Profession and Leadership Policy" (2017)
https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/ARN3758_AR_600-100_FINAL_WEB_.pdf

- Army Doctrine Publication 6-0, "Mission Command: Command and Control of Army Forces," (2019)
https://armypubs.army.mil/epubs/DR_pubs/DR_a/ARN18314-ADP_6-0-000-WEB-3.pdf

Website Resources:

Center for the Army Profession and Leadership (CAPL) (handbooks, videos, self-development tools, courses, and much more)
Developing Leaders | Center for the Army Profession and Leadership | CAPL - https://capl.army.mil/Developing-Leaders/

- Project Athena drop-down at top of page. The Project Athena Leader Self-Development Tool is of special note
- Developing Leaders drop-down at top of page
- Resource Library drop-down at top of page

Click on Army Training and Leader Development Strategy (ATLDS) below Resources for Leader Development. This will take you to ATLDS: https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fcaplalacaplpfwstorprod01.blob.core.usgovcloudapi.net%2Fweb%2Frepository%2Farmy-training.docx&wdOrigin=BROWSELINK

CAPL Leader Development Resources
https://capl.army.mil/additional-resources/leadership-development.php

CAPL Leadership Sources (links to doctrine, interactive multimedia instruction, counseling and coaching guides, and LeaderMap and ALx YouTube videos)
https://capl.army.mil/additional-resources/#:~:text=Full%20Additional%20Resources%20List%20Doctrine%20%7C%20Interactive%20Multimedia,%7C%20Other%20%7C%20Doctrine%20ADP%201%3A%20The%20Army

The Center for Creative Leadership (CCL)
Mentioned by CAPL, CCL is recognized as one of the top leadership development training providers in the world https://www.ccl.org/

Combined Arms Center (CAC)—Center for the Army Profession and Leadership's Army Training and Leader Development Strategy (ATLDS) https://capl.army.mil/additional-resources/leadership-development.php

"The purpose of the Army Training and Leader Development Strategy (ATLDS) is to identify priorities and outcomes needed to achieve the Army Vision and the Army Strategy (2018), across the near- and mid-term periods of the Army Campaign Plan (ACP) for fiscal year 2020-28 (FY20-28), and to synchronize these Army-wide training efforts" (The Army Training and Leader Development Strategy, 2020, p. 4).

Recent CAC Publications and Focus Areas
https://usacac.army.mil/ (resources found at the bottom right side of page)

"Army Handbook for Leadership Transitions"
https://usacac.army.mil/sites/default/files/documents/cal/LeadershipTransition.pdf

"Army Handbook for Self-Development"
https://usacac.army.mil/sites/default/files/documents/cal/SDev_Handbook20.pdf

Modern USMC Air Power–Aircraft and Units of the Flying 'Leathernecks'

Author: Joe Copalman, Harpia Publishing, 2020, 253 pages

A book review by COL Jayson A. Altieri (Ret.)

Modern USMC Air Power–Aircraft and Units of the Flying 'Leathernecks' by Joe Copalman is one of the most comprehensive literary studies of U.S. Marine Corps airpower published in the last 20 years. During that time, Marine Corps Aviation adjusted tactics and equipment to meet the demands of the United States' shift from combatting global insurgencies to peer-state competition that characterized the Cold War a generation ago.

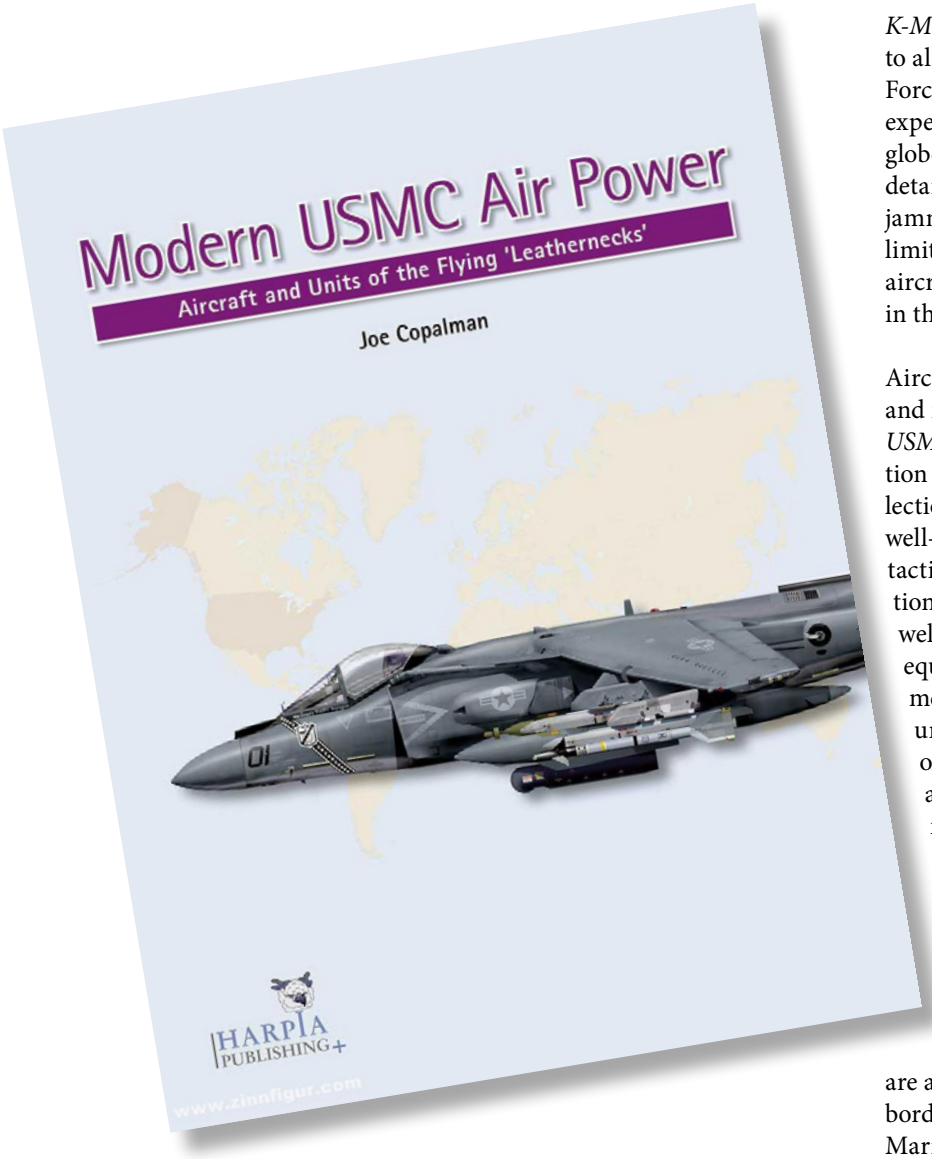
Compared to their counterparts in the U.S. Air Force, Army, and Navy, the U.S. Marine Corps Aviation branch is one of the smallest of the four major U.S. military services' air arms. The formation of the Marine Corps air arm traces its origins to 1912, when the first Marine Aviator, 1st Lt. Alfred Cunningham, reported for flight training at the Naval Aviation Camp in Annapolis, Maryland, to train in one of four aircraft owned by the U.S. Navy. By 1914 with the coming war in Europe, the Marine Corps was flying land-based aircraft and conducting rudimentary Air-Ground support with its Marine infantry brethren. By the time the Marines went to France in 1917, they were flying DH-4 and DH-9 bombers alongside their British Royal Air Force counterparts, ending the war with experience gained in air-to-air combat, aerial resupply, and air interdiction operations.

The years between the First and Second World Wars saw the Marine Corps balance the operational requirements to support small wars in China, the Dominican Republic, Haiti, and Honduras, all while facing budget cuts and hostile senior military leaders from inside and outside the Marine Corps. As a result of these challenges, the Corps developed what was to become the foundational principle of Marine Corps Aviation: *'The only excuse for aviation in any service is its usefulness in assisting the troops on the ground to successfully carry out their missions.*"[1] The Second World War proved to be the crucible by which Marine Corps Aviation would model itself during the rest of the 20th and early 21st centuries. The battles of Wake Island, Guadalcanal, the Philippines, and Okinawa allowed Marine Aviators to successfully apply the theories of the 1920s and 1930s against conventional Japanese land- and sea-based forces. The Cold War saw the advent of jets and helicopters, and the Korean and Vietnam Wars added to the Corps' combat aviation experience. The divestment of legacy aircraft from the Vietnam era and introduction of digital communications, global positioning systems, "smart munitions," and virtual takeoff and landing technologies allowed Marine Aviation even greater flexibility on the modern battlespace up to and including the Afghanistan and Iraq Wars.

Modern USMC Air Power covers, through high-quality illustrations and indepth analysis, the full spectrum of U.S. Marine Corps' combat aviation power. In this book, the author provides 15 very informative chapters ranging from the history and future of Marine Corps Aviation, individual airframes' current and future capabilities (rotary and fixed wing and unmanned aircraft systems [UAS]) and onboard weapons and defensive systems, Marine Corps aviation training and test and evaluation squadrons, and the composition of each of the Marine Corps' combat and support squadrons. Additionally, the author's book adds personal accounts from interviews of active-duty, reserve, and retired pilots and aircrews who operated the current fleet of aircraft, as well as from forward air controllers who relied on the support of the aforementioned aircrews incorporating an important personal dimension to the subject.

Readers of *Modern USMC Air Power* will find this book an excellent reference on how the U.S.

[1]Quote attributed to Alfred Cunningham, First Director of Marine Corps Aviation, 1920.



Marine Corps shifted from its Cold War legacy systems so successful in the First Gulf War—to significant transitions in newer type aircraft like the Lockheed F-35 *Lighting II* and Bell MV-22 *Osprey,* major upgrades to legacy aircraft like the AH-1Z *Viper* and KC-130 *Hercules,* and adoption of radically new UAS like the RQ-21 *Blackjack* and CQ-24 *K-Max* platforms—all designed to allow Marine Air-Ground Task Forces to conduct amphibious and expeditionary warfare around the globe. The author also provides detailed information on sensors and jamming pods that help make the limited number of Marine Corps aircraft some of the most versatile in the U.S. arsenal.

Aircraft enthusiasts, wargamers, and modelers will find *Modern USMC Air Power* a valuable addition to their aviation book collection. What is lacking in this well-written book is a chapter on tactical air traffic services and aviation maintenance organizations, as well as fuel/ammunition support equipment vital to the employment of Marine Corps Aviation units. This lack of information on aviation support systems is a common challenge among many books on this topic, but this oversight does not detract from an otherwise well-written book. Finally, while the first-person narratives for current and former Marine Corps Aviators lend credibility to this book, there are a few instances of editorializing bordering on the book becoming a Marine Corps recruiting brochure. Minor criticisms aside, *Modern USMC Air Power* is a must-have book in any military aviation library.

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Mastering the Fundamentals

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A CH-47 Chinook transports a High-Mobility Multipurpose Wheeled Vehicle during a sling load operation. U.S. Army photo by Private Deomontez Duncan.

Write for *Aviation Digest!*

Focus Topic: Aviation Sustainment in LSCO
April-June 2023 articles due NOW
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Focus Topic: Aviation Doctrine Update
July-September 2023
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Along with articles corresponding to the listed focus topics, the *Digest* is always receptive to letters to the editor, leadership articles, professional book reviews, anything dealing with the aviation 7-core competencies, training center rotation preparation, and other aviation-related articles.

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