# Aviation DIGEST

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## Airspace Integration and Large-Scale Combat Operations

UNITED STATES ARMY Aviation DIGEST
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Volume 10/Issue 3

**Commanding General, USAACE**
MG MICHAEL C. MCCURRY

DOTD
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https://intranet.tradoc.army.mil/sites/usaacedotd/SitePages/Home.aspx

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https://intranet.tradoc.army.mil/sites/usaacedotd/TacticsDivision/SitePages/Home.aspx

The Tactics Division, Directorate of Training and Doctrine (DOTD), U.S. Army Aviation Center of Excellence (USAACE), Fort Rucker, 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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Submit articles or direct comments pertaining to the *Aviation Digest* to: usarmy.rucker.avncoe.mbx.aviation-digest@army.mil

By Order of the Secretary of the Army:

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About the Cover:

A Task Force Phoenix CH-47 Chinook helicopter from B Company, 1st Battalion, 171st Aviation Regiment (General Support Aviation Battalion), is loaded with cargo at a forward operating base in Syria. U.S. Army photo by MAJ Jason Sweeney.

# The Command Corner

It is my distinct privilege to serve as the CG of the United States Army Aviation Center of Excellence and Fort Rucker and the 17th Aviation Branch Chief. It is truly an honor to follow MG Francis and the long line of distinguished branch chiefs who have led Army Aviation in peacetime and war over the past 67 years. I will continue to uphold Army Aviation's sacred trust with the Soldier on the ground.

My wife, Sadie, and I are delighted to return to the Home of Army Aviation, where we began our journey 29 years ago. "Welcome Home" has a special meaning to our family, and we are blessed to be back. As proud parents of Army Soldiers, we are acutely aware and forever grateful for the sacrifice and dedication of our Soldiers and our Army families.

In order to be above the best, we must be the best! Army Aviation provides the combined arms team with an immense operational advantage without peer in scale or capability. We provide the ground tactical commander with the required mobility, lethality, survivability, and situational understanding to win in an increasingly complex world. Our branch has and must continue to enhance the survivability of the combined arms team.

The evolution in advanced and emerging technologies across all domains, coupled with the instability in the international security environment, requires the branch to rapidly adapt and change. While we are the best-equipped, best-trained, best-led rotary-wing aviation force in human history, we are not guaranteed victory in future conflicts.

Today is a time of Army Aviation's most significant and sweeping transformation in over 40 years. Continuing materiel modernization toward Future Vertical Lift (FVL) capabilities of Future Long Range Assault Aircraft, the Future Attack Reconnaissance Aircraft ecosystem, and Future Tactical Unmanned Aircraft System is crucial. Future Vertical Lift brings increased survivability, speed, range, and rapid convergence of lethal effects to the combined arms team. The synergy of advancing FVL capability with improvements in training and tactics ensures our force is ready to win in large-scale combat operations (LSCO).

Therefore, beyond materiel solutions, we must also evolve our doctrine and the way we train. We do this in part, by realizing the purpose of *Aviation Digest*—to exchange ideas and innovative approaches in tactics, techniques, and procedures. Putting "People First," by providing our Soldiers with tough, realistic training scenarios focused on LSCO, transforming how we fight, and developing officers, warrant officers, and noncommissioned officers that lead formations in austere environments is how we will fight and win our Nation's wars.

The Army has just released updated Field Manual (FM) 3-0, "Operations," and the anticipated publication date for the FM 3-90, "Tactics," is on/about November 2022. To integrate this doctrinal change, we are preparing to modernize FM 3-04 "Army Aviation," in accordance with the Army's new operating concept, multidomain operations. Field Manual 3-04 is currently in conceptual development, with drafting the publication of Field Manual (FM) 3-90 in November 2022 and the newly published FM 3-0. Ahead of FM 3-04 updates, we are leaning forward by releasing a major revision to the Aviation standard operating procedures (SOPs) to enable our formations with universal tools necessary for success in the LSCO environment. Easily accessible from the online Aviation Leader Kitbag,[1] the new Aviation Branch Operations SOP provides a common articulation of how Army Aviation executes its mission. Regardless of the organization, the common digital, unlocked SOP, electronic flight bag-compatible Aviation and Brigade Aviation Element/Liaison Officer Handbooks, and Risk Common Operating Picture provide Aviation leaders the capacity to operate from the platoon to brigade level.

Large-scale combat operations present a different set of challenges for our Aviation Soldiers. Developing our Soldiers and leaders remains a top priority for Aviation transformation. We will prepare our Soldiers by focusing on warfighting skills at the individual, crew, platoon, and company levels. The static way we have executed Aviation operations in the last 20-plus years will no longer serve us as we address the pacing threat of China while remaining ready to meet the urgent challenge of Russia.

Army Aviation continues to recruit, train, and develop our commissioned and warrant officers to become pilots-in-command (PCs), unit trainer evaluators, and air mission commanders. Our Aviators are fit, disciplined, tactical experts who are equal partners with our maneuver and fires teammates across the combined arms team. Our noncommissioned officers must be equally adept at leading Soldiers and managing maintenance across dispersed formations in austere environments. Leaders must be doctrinal experts capable of leading crews, platoons, and companies as part of the combined arms team.

We are sharpening our junior aviators with advanced warfighting skills. Our tactical emphasis is transforming our instructors and aviation mission survivability officers into integrated teams of trainers focused on lethality and survivability. Operating at higher speeds at terrain flight altitudes requires training focus on both building proficient PCs and creating experts in combined arms maneuver.

As leaders in Army Aviation, we need to examine old concepts, tactics, and doctrines, and experiment with new ones. We must draw on lessons learned from current global conflicts and from LSCO-focused training across the force to prepare our organizations for future conflict. I strongly encourage you share your novel and innovative approaches in the *Aviation Digest*. Technological advancements alone will not win the next war. Your ideas will elevate the profession to ensure we prepare our Soldiers and units for victory on the next battlefield.

I am honored to assume the mantle of leading the Aviation Branch during this epic Army modernization and transformation. Thank you for your continued dedicated service and sacrifice to our Nation, and thank you to your families, who remain faithful, supportive, and vital to our mission.

Above the Best!

Michael C. McCurry
Major General, USA
Commanding

[1]Available with a valid common access card at https://intranet.tradoc.army.mil/sites/usaacealkb/SitePages/Home.aspx



Back to Table of Contents

A U.S. Army AH-64D helicopter prepares to land aboard the USS *Ponce*. U.S. Navy photo by MC1 Jon Rasmussen/Released.

# Aviation DIGEST


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# contents



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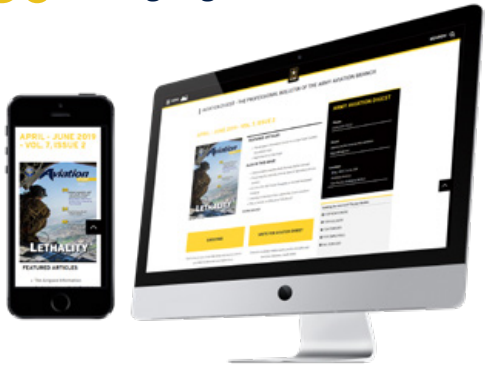


### Author Guidelines

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.rucker.avncoe.mbx.aviation-digest@army.mil.

Please note that *Aviation Digest* does not accept previously published work or simultaneous submissions. This prevents an overlap of material in like publications with a similar or same audience.

*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.

Non-military authors should submit authorization for *Aviation Digest* to print their material. This can be an email stating that *Aviation Digest* has permission to print the submitted article. Additionally, the author should provide a separate comment indicating that there is no copyright restriction on the use of the submitted material.

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

October-December 2022 issue articles due **NOW** (published on or about November 15, 2022)

January-March 2023 issue articles due December 1, 2022 (published on or about February 15, 2023)

April-June 2023 issue articles due March 1, 2023 (published on or about May 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)

## Did you Know?

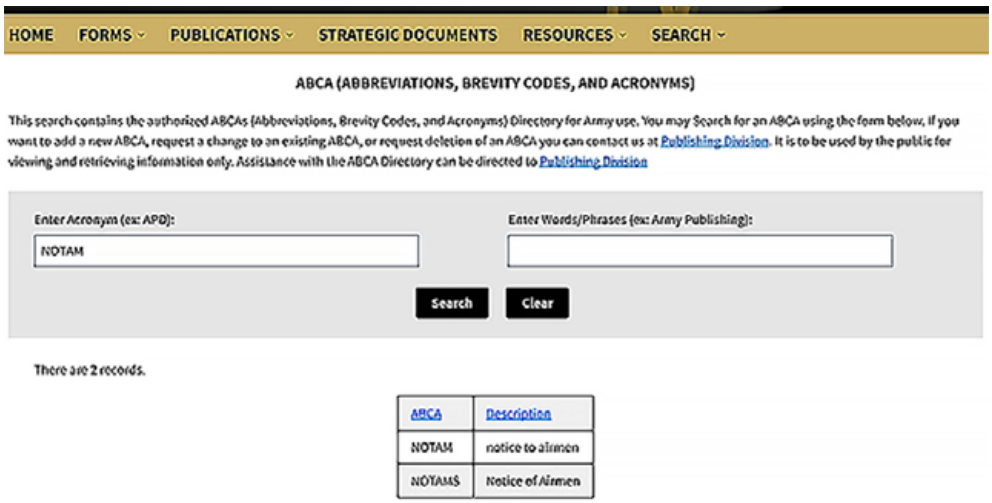
Ask any aviator what NOTAMs (www.notams.faa.gov) means, and we would bet our paychecks that most of us would answer "Notices to Airmen."

Imagine our surprise when, double-checking the acronym source for our inaugural "NOTAMs" section of the *Aviation Digest*, we discovered that what we all learned in flight school has been deemed incorrect!

The Federal Aviation Administration (FAA) changed the acronym effective 02 December, 2021, through Administrative Order JO 7930.2S CHG 2 (https://www.faa.gov/documentLibrary/media/Order/7930.2S_Chg_2_dtd_12-2-21.pdf). Fortunately, the spirit of what a NOTAM is, and the beloved acronym itself, has not changed, just the way the FAA defines the letters.

## A NOTAM is now a Notice to Air Missions.

The FAA's site describes NOTAMs and the reason for the acronym change here: https://www.faa.gov/about/initiatives/notam/what_is_a_notam#




Also, did you know how much the capitalization of a single letter can matter? Though the Army Publishing Directorate's (APD) Abbreviations, Brevity Codes, and Acronyms (ABCA) repository has not yet caught up to the recent change (Joint and Army doctrine does not turn on a dime), the graphic shows how different NOTAMs vs. NOTAMS is! To search for an authorized ABCA, use the search feature at https://armypubs.army.mil/abca/searchabca.aspx

Food for thought as you peruse our new NOTAMs section: Words have meaning, and the power of doctrine, or policy, in controlling the definitions of our common vocabulary cannot be overstated. That being said, if you want a voice in how Aviation Doctrine continues to evolve, scroll down to the Doctrine Branch section or check out page 42 for more details!

www.notams.faa.gov



Back to Table of Contents

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

Welcome to the newest addition (actually a blast from the past, reinvigorated) to the *Aviation Digest*! The quarterly Notices to Air Missions (NOTAMs) section is intended to be your one-stop shop to quickly catch up on what's new in the world of Aviation Training and Doctrine, and how to reach any of our branches in the Directorate of Training and Doctrine (DOTD), Fort Rucker, Alabama, to assist your efforts at the unit level. We live in exciting times for both the Aviation Branch and the Army as a whole, as the entire force pivots to large-scale combat operations (LSCO) and we dust off the old great power competition doctrine (who else remembers AirLand Battle?) and apply current technology and capabilities to its refresh. In today's globally competitive environment, we can no longer focus solely on one potential adversary. We must be diverse enough in our thought, from individual through collective training across all three training domains (institutional, operational, and self-development), to respond to crisis—and even conflict—in opposite far-flung regions of the world.

The *Aviation Digest*, as our branch's professional bulletin, is a place to experiment and debate how we are fighting now and how we expect to fight in the future, whether near-term or further out. We invite any of our readers, no matter the rank, to write for us! Our editor will help shape submissions, so don't be daunted if you think your writing wouldn't be "good enough." Professional discourse is critical at this historical inflection point: Let your experience and intellectual curiosity be heard!

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## From the Training Division Chief (Department of the Army Civilian [DAC] Bo Thurman):

As Aviation looks to the future to identify emerging operational requirements, changes to the force, and changes in technology and equipment, we must update individual training. In order to realize military occupational specialty (MOS) training modernization goals, we need our Aviation Soldiers, Senior Enlisted Advisors, and leaders in the field to respond to Aviation Critical Task Site Selection Board (CTSSB) surveys to help determine what Soldier MOS tasks should stay in training and what should go. Our leaders must also enable the CTSSB process by ensuring that their most talented and proficient Soldiers will participate in these boards when called.

Upcoming CTSSBs: See the article on page 27 of this *Aviation Digest* for more information.

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## Enlisted Training Branch (Branch Chief: DAC Morris Anderson):

The Advanced Leader's Courses (ALC) and Senior Leader's Courses (SLC) will look very different across the Army to start the new fiscal year. The ALC and SLC redesigned courses have been divided into two phases. The first phase is a 5.5-day nonresident phase National Guard and Reserve component (COMPO)-2 or a 7-day nonresident phase (COMPO-1) conducted in the virtual learning environment. Soldiers will then have 3 days to travel to one of the four Aviation noncommissioned officers' academies (NCOAs) to begin the second phase, which is conducted in a resident status at the assigned NCOA. This redesign will be a significant change in the format and flow of the previous or traditional ALCs and SLCs. These course changes are effective 01 October 2022.

Phase-1 will be conducted utilizing Microsoft Teams (MS Teams) and Blackboard instructional platforms. Instruction will be nonresident but with a resident instructor leading the geographically dispersed students, also referred to as a synchronous learning strategy. Phase-1 of the U.S. Army Aviation Center of Excellence (USAACE) ALC and SLC contain the same lesson content for all Aviation MOSs. It is the student's responsibility to ensure they have all required resources for training, to include a distraction-free workspace, computer with microphone, and webcam capabilities that can access MS Teams.

Upon completion of the nonresident Phase-1, Soldiers will then have 3 days to travel to the appropriate NCOA to begin the resident Phase-2. The intent of providing 3 travel days is to maintain class integrity and the instructor-to-student and student-to-student rapport established in Phase-1. The second phase of the redesigned ALCs and SLCs retains the remaining course content not included in Phase-1 and will look very much the same as the traditional courses. The 55-Hour Redesign is a significant change for all ALCs and SLCs.

The USAACE team led the way by being the only Center of Excellence (CoE) to meet all U.S. Army Training and Doctrine Command (TRADOC) redesign suspense dates, thus allowing other CoEs to use USAACE as a guide in completing their own redesigns. Once again, the USAACE team has demonstrated why Army Aviation is always "Above the Best!"

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## Flight Training Branch (Branch Chief: CW5 Steve Farabaugh):

Aircrew Training Manuals (ATMs) will adjust to a 24-month revision cycle upon the next publishing in January 2023. Future out-of-cycle update/revisions will only be conducted for issues deemed of such a critical nature for safety or execution of a maneuver cannot be delayed until the next scheduled revision.

Aircrew Coordination Training (ACT) sustainment will be published immediately following the holiday block leave time frame.

## New Systems Integration Branch (Branch Chief: Vacant):

1. The Future Vertical Long-Range Assault Aircraft's (FLRAA) materiel solution is in its final down selection stage. Once the materiel solution is determined, the New Systems Integration Branch (NSIB) will actively participate in several integrated product teams (IPT) and working groups to consider and develop training-related requirements for FLRAA operator, maintainer, and support (OMS) personnel. The final materiel solution will also trigger the beginning of the ADDIE process, which will be the spiral approach to making collective, individual, and self-development training decisions for FLRAA personnel.

2. The FLRAA STRAP is completed and approved. It is currently posted in the Central Army Registry (CAR).

3. Future Attack Reconnaissance Aircraft (FARA) STRAP is in the development phase, currently estimating a completion date of 30 March 2023.

4. The NSIB continues to conduct assessment of institutional training support as part of several materiel releases (MR) as the AH-64 Apache continues through upgrades of several subsystems and components as part of the AH-64 helicopter modernization program.

## Officer Training Branch (Branch Chief: DAC Andrew Mars):

Aviation Captain Career Course (AVC3): The AVC3 is going through one of the largest modernizations in its history. Active and reserve components will complete a combined arms center (CAC)-produced, universal for all COMPOs, distance learning (DL) phase. Active component will then attend a 21-week resident course focused on tactics, doctrine, and the military decision-making process. The revised content focuses more on branch-specific content while enhancing skills common to all Army CPTs. The reserve component will now attend a 2-week resident phase (Phase-1) following the CAC DL. Following Phase-1 is a 75-hour branch DL phase that enhances the content in the legacy branch DL. Finally, reserve CPTs will attend an additional 2-week resident phase. These updates will increase the ability of our Aviation officers to fight in LSCO and bring COMPOs 2 and 3 closer to equivalency with the active course more than ever before.

Warrant Officer Advanced Course (WOAC): The WOAC has been updated to focus on tactical and technical proficiency for WOs serving at the company and battalion level. The update also transitions doctrine from counterinsurgency (COIN) to LSCO. The course length has been reduced from 8 weeks, 5 days to 3 weeks, 5 days (6-day training model) to better adapt to aircraft currency requirements and Soldier availability.

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

Hello from the 3rd floor of DOTD, where we have recently merged the Doctrine and Tactics divisions into "DTAC." Never fear, we didn't mess with a good thing regarding your beloved Survivability and Gunnery Branches, but we did roll Sustainment Branch back up into Doctrine, and Collective Training is now part of the Tactics Branch. To reinforce what our branch chiefs are saying, we want to hear from you! The good, the bad, and the ugly–the glorious successes and spectacular defeats alike. Like the ground troops were to my beloved KWs, you, the fighting force, are to DOTD: the reason we exist and execute our mission day in and day out.

## Doctrine Branch (Branch Chief: CPT Ashley Howard):

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.rucker.avncoe.mbx.doctrine-branch@army.mil. See the article on page 22 of this *Aviation Digest* for more information.

The Fiscal Year 2022 revised Aviation Branch Operations Standard Operating Procedure (SOP) is available on the USAACE DOTD SharePoint page. See the article on page 42 of this *Aviation Digest* for more information.

Be sure to visit the Army Publishing Directorate (APD) to acquire this last quarter's updated doctrine: Training Circular (TC) 3-04.11 as of April 2022 (see also STACOM on the Flight Training Branch's page), TC 3-04.4 as of July 2022, Army Techniques Publication (ATP) 3-04.6 as of June 2022, and TC 3-04.71 as of July 2022. Keep an eye out for the release of ATP-3-04.16 and TC 3-04.9 in the coming months.

The Doctrine Branch welcomes five new Doctrine Developers to the team: CPT Jayce Ackerman, CPT Adam Kunkle, CW4 Andy Gardner, CW3(P) Dustin Schnaible, and SFC Kenneth Spann. 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 Rucker!

## Tactics Branch (Branch Chief: CW4 Jeremiah Bradley):

Aviation Maintenance Technician 15IA

The Tactics Branch's Lessons Learned department wants to hear from you! Please submit any lessons learned from your recent deployments, warfighter exercises, field training exercises, combat training centers, or other home station training events into the Joint Lessons Learned Information System at https://www.jllis.mil. If you've never heard of JLLIS, think of a massive after-action review (AAR) repository that covers formats from a single observation to a fully fleshed out white paper, to a familiar AAR-style PowerPoint, and everything in between—from units who have been there and done that. Like any Army

system, it takes a little bit of learning to become well-versed, but we can help you get started, and I can personally assist you by uploading your AAR products for you the first time. My contact information is available below in the address book.

The purpose of putting your lessons learned, no matter how small you may think they are, into JLLIS is to disseminate lessons throughout the Aviation Enterprise and potentially beyond. Once safely in JLLIS, you'll never have to worry about AARs being lost in shared-drive calamities, knowledge management fumbles, password snafus, or any other digital issues that keep us stuck learning the same lessons over and over within our formations.

Most specifically, we wish to capture your Brigade/Task Force Commander's top five issues (positive and negative) to assess, share, and potentially integrate these best practices into doctrine, turning them into validated tactics, techniques, and procedures. We also want to capture "sustains, improves, and best practices" as well as "Observations, Insights, and Lessons Learned" as a result of conducting contingency operations from your various subordinates and staff sections. We look forward to hearing from you and passing your lessons learned on to the Aviation Enterprise.

Lastly, Army Regulation 11-33, "Army Lessons Learned Program," and Department of the Army Pamphlet 11-33, "Guide to the Army Lessons Learned Program," are now published on APD, effective 28 August 2022. The biggest takeaway from the update: Brigade and below commanders are no longer required to participate in the Lessons Learned Program, they are now only encouraged to participate unless designated by G-3/5/7 for specified key exercises, deployments, tests, and experiments.

**Collective Training Notes:** We are currently finalizing the Fiscal Year 2023 Unit Task List updates, which feeds into our Combined Arms Training Strategies (CATS) products. Combined Arms Training Strategies are the Army's overarching strategy for focusing on near-term unit training or on identifying future unit training strategies and requirements and are an incredible tool at the unit level. See the article on page 28 of this *Aviation Digest* for more information.

## Survivability Branch (Branch Chief: CW5 Casey Peterson):

The Aviation Mission Survivability Officer Course welcomes the new course chief, CW4 Cesar Urquiza. CW4 Urquiza brings a wealth of knowledge and tactical experience to the position and is set to assist in the upcoming course redesign.

The Tactics Review Board has been reconstituted at USAACE to take emerging threat concerns from the newly reformed Threat Working Group and validate viable tactics, techniques, and procedures to counter threats against Army Aviation.

## Gunnery Branch (Branch Chief: CW5 Will Jones):

Training Circular 3-04.3, "Aviation Gunnery," is currently under review and will be released shortly after Army Regulation 95-1, "Flight Regulations," and TC 3-04.11, "Commander's Aviation Training and Standardization Program," updates are released.

The next Gunnery Branch Update Brief will be conducted via MS Teams in conjunction with release of the new TC 3-04.3.

## Address Book:

**Aviation Kit Bag:** https://intranet.tradoc.army.mil/sites/usaacealkb

**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://intranet.tradoc.army.mil/sites/usaacedotd/DoctrineDivision/DoctrineBranch/Aviation%20Branch%20SOPs

**DOTD Public Site:** https://intranet.tradoc.army.mil/sites/usaacedotd/

- **Training Division:** https://intranet.tradoc.army.mil/sites/usaacedotd/TrainingDivision/ / DIV Chief: 334-255-9679
- **DTAC*:** https://intranet.tradoc.army.mil/sites/usaacedotd/TacticsDivision / DIV Chief: 334-255-0106

*also **Doctrine Branch:** https://intranet.tradoc.army.mil/sites/usaacedotd/DoctrineDivision/DoctrineBranch

**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: Dr. Christina Parker at 334-255-2739 or christina.k.parker2.civ@army.mil
- TRADOC SharePoint: https://intranet.tradoc.army.mil/sites/usaacedotd/TrainingDivision/EducationandTechnologyBranch

**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: https://intranet.tradoc.army.mil/sites/usaacedotd/TrainingDivision/EnlistedTrainingBranch

**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: https://intranet.tradoc.army.mil/sites/usaacedotd/TrainingDivision/FlightTrainingBranch

**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: https://intranet.tradoc.army.mil/sites/usaacedotd/TrainingDivision/FlightTrainingIntegrationBranch

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

- Branch Chief: Presently vacant
- TRADOC SharePoint: https://intranet.tradoc.army.mil/sites/usaacedotd/TrainingDivision/NewSystemsIntegrationBranch

**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://intranet.tradoc.army.mil/sites/usaacedotd/TrainingDivision/OfficerTrainingBranch

**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://intranet.tradoc.army.mil/sites/usaacedotd/TrainingDivision/MaintenanceTraining Branch

**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.rucker.avncoe.mbx.doctrine-branch@army.mil
- TRADOC SharePoint: https://intranet.tradoc.army.mil/sites/usaacedotd/DoctrineDivision/DoctrineBranch
- FMs, ATPs, and TCs are published by APD @ 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 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: normally at 334-255-2712; current acting Branch Chief is Lessons Learned Manager:
  CW4 Jeremiah Bradley 334-255-9343 or jeremiah.c.bradley.mil@army.mil
- Group Mailbox: usarmy.rucker.avncoe.list.atzq-tdd-t@army.mil
- TRADOC SharePoint: https://intranet.tradoc.army.mil/sites/usaacedotd/TacticsDivision/TacticsBranch
- *Aviation Digest* public site: https://home.army.mil/rucker/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.rucker.avncoe.mbx.ams@army.mil
- TRADOC SharePoint (links to Intelink, all phone numbers)
  https://intranet.tradoc.army.mil/sites/usaacedotd/TacticsDivision/SurvivabilityBranch
- 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)*

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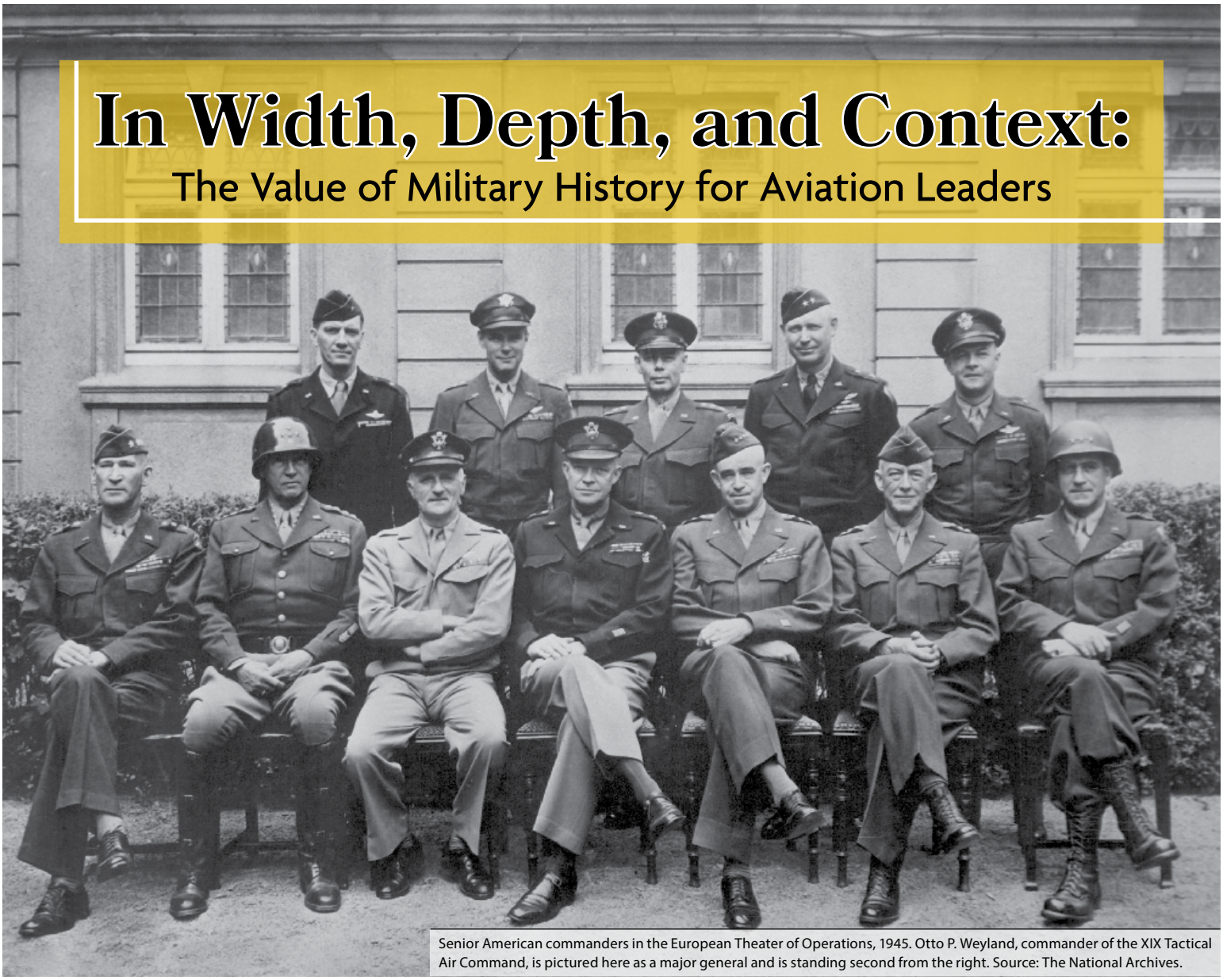
  https://intranet.tradoc.army.mil/sites/usaacedotd/TacticsDivision/GunneryBranch
- Intelinks: NIPR: https://intelshare.intelink.gov/sites/usaace/gb
  SIPR: https://intelshare.intelink.sgov.gov/sites/GunneryBranch



Back to Table of Contents

# In Width, Depth, and Context:

## The Value of Military History for Aviation Leaders



Senior American commanders in the European Theater of Operations, 1945. Otto P. Weyland, commander of the XIX Tactical Air Command, is pictured here as a major general and is standing second from the right. Source: The National Archives.

**By MAJ Daniel T. Liebetreu**

As the Army Aviation enterprise adjusts to the challenges of large-scale combat operations (LSCO) against a peer threat, aviation leaders are faced with the challenge of preparing themselves and their subordinates for the unique rigor of high-intensity combat. This preparation will certainly involve field training exercises and continuous flight operations in garrison; however, these training events and daily flights alone cannot prepare our leaders for the anticipated complexity of LSCO. For military professionals to succeed in the 21st century, they must develop critical and creative thinking and cultivate a deep understanding of our potential adversaries and the nature of warfare more broadly. Fortunately, there is a resource at their disposal to account for the gaps that training cannot fulfill: history. Through a solid foundation in military history, aviation leaders will better understand ground maneuver, Army Aviation's role in enabling that maneuver, and the potential operating environment (OE) we may face in future conflict. As a result, the detailed study of military history must serve as a key component to every aviation leader's development, from the tactical to strategic levels.

There is a dangerous trend in today's military as it relates to personal study. Many service members disdain scholarship and laugh at "unrealistic" reading requirements at the Nation's most prestigious venues for professional military education. They believe that their combat experience is enough to inform their judgement on the battlefield, even though the character of warfare in Afghanistan and Iraq is likely very different than what we would face in a conflict against a peer adversary. In LSCO, personal experience is not enough. Reading and studying history present an opportunity to learn from the successes and mistakes of the past. History is what British soldier and military historian B. H. Liddell Hart (1946) described as "universal experience—infinitely longer, wider, and more varied than any individual's experience" (p. 10). Similarly, French military and political leader Napoleon Bonaparte

embraced the study of history to inform command decisions because "it offered ways to capitalize on what others before him had experienced" (Luvaas, 1982, p. 9). With such a vast knowledge base to tap into prior to the start of conflict, military leaders must capitalize on the free developmental opportunity.

So how should Army Aviation approach the study of military history to draw the greatest benefits as we again prepare for large-scale combat? In an oft-cited essay, the late, great military historian Sir Michael Howard (1981) posited that professional soldiers must study history "in width, in depth, and in context" (p. 14). Due to the uniqueness of our profession, this essay proposes a potential framework to guide aviation officers, warrant officers, and noncommissioned officers through their professional study of military history. By studying history in width, depth, and context, we can learn how commanders on the ground visualize the conflict, find inspiration from past successes and lessons from previous failures, and better understand our adversaries and the OEs where we may confront them. Recognizing the value of our time, both at work and at home, the author hopes to spark a curiosity in the reader that can be realistically fulfilled despite our busy schedules. For while studying history will take effort, prioritization, and even personal time, the lessons learned may save lives or create opportunities for ground force commanders during the next big conflict.

## In Width—To Understand the Nature of Warfare

Military history is an enormous field with a seemingly endless amount of quality reading available. Fortunately, there is a clear benefit to touching as much of this content as possible during one's career. By studying history with width, across multiple time periods and geographies, aviation professionals will discover important trends about our demanding profession. As Howard (1981) noted, "Only by seeing what does change can one deduce what does not" (p. 14). These unchanging trends include many of the indelible principles that continually reappear in conflict: friction, shock, uncertainty, chance, immeasurable hardship, and the importance of inspiring leadership. We can find these principles in the classics, the Napoleonic Wars, the American Civil War, both World Wars, and many other conflicts. In addition, there are lessons woven into the history of recent conflicts that do not involve the United States, like the 1973 Arab-Israeli War and the 1982 Falklands War. These wars demonstrate that modern warfare against a peer adversary is hard, much more so than the combat we experienced in Afghanistan and Iraq. Historical examples can help us understand and visualize the challenges of LSCO before we are faced with them for real.

In addition to understanding the nature of warfare, military history can teach aviation professionals specifically about the nature of ground combat and the role we play in maintaining our ground forces' competitive advantage. By appreciating how commanders on the ground think and see the battlefield, we will be able to better support maneuver and integrate with fires and intelligence. For an example of how air-to-ground integration works in LSCO, there is no greater conflict to study than the last great global struggle—World War II. Studying the operational art of revered generals like George Patton, Erwin Rommel, and Bernard Montgomery can reveal how ground force commanders think about maneuver and exploitation and how they can be enabled by tactical aviation. General Patton's breakout from Normandy and pursuit of the German army in the summer of 1944 demonstrated the value of tempo and effective mission command. In addition, it was enabled by fighters from BG Otto P. Weyland's XIX Tactical Air Command and is one of the best examples of air-to-ground integration during the war (McGowan, 2021). Fittingly, recent scholarship has demonstrated how Patton's Third Army dominated the information domain and used that advantage to drive reconnaissance, accelerate the targeting process, and maintain tempo (French, 2022). Tactical aviation played an important role in the pursuit, and there are valuable lessons to glean from this campaign and others like it.

## In Depth—To Study With a Focus on Aviation

The campaign in Western Europe during World War II is one of many examples worthy of study by Army Aviators, not just because of the importance of the campaign, but because it allows for an in-depth study that applies to our specific profession in LSCO. According

The commanders and staff of the 1st Battalion, 101st Aviation Regiment (Attack) after the raid that initiated Desert Storm, Former Vice Chief of Staff General Richard A. Cody, then a LTC and the battalion commander, is seated at center. Source: U.S. Army.



Back to Table of Contents

to Sir Howard's (1981) framework, military leaders "must study in depth," to include the examining of individual campaigns in detail (p. 14). For aviation professionals, this should involve the detailed study of aviation employment across many campaigns to reveal common trends, helpful insights into our strengths and weaknesses, and ways to execute combat missions in the future. In addition to the history of tactical aviation support during World War II, all members of the Aviation Branch should be familiar with the success of Task Force Normandy at the start of Desert Storm and the intense planning, preparation, and rehearsals led by then LTC Richard Cody that ensured its success.[1] Furthermore, the success in 1991 should be contrasted with the failures of Task Force Hawk in Albania in 1999 and the 11th Attack Helicopter Regiment's deep attack during the invasion of Iraq in 2003.[2] An in-depth study of Task Force Hawk by COL (Retired) Charles R. Bowery Jr. (2021), a former AH-64 Aviator and the current executive director of the U.S. Army Center of Military History, revealed how crews were not prepared to fly in the mountains at night and did not have the training or equipment to operate in the joint and multinational fight in Kosovo (pp. 33–36). Unfortunately, many aviation units would have to relearn these lessons the hard way in Afghanistan and Iraq following the attacks of September 11th, 2001. There also remains some doubt as to whether we could do it now on a large scale. The lessons of Task Force Hawk remain relevant more than 20 years later.

Howard (1981) also advocated for in-depth study to provide military professionals with "a glimpse of the confusion and horror of the real experience" (p. 14). In aviation, these experiences should include the Black Hawk Down incident in Somalia during October of 1993 (Bowden, 1999) and the Operation Anaconda air assault in eastern Afghanistan in March of 2002 (Naylor, 2005). Both offer a glimpse into the greatest challenges in our profession and the tenacity and grit that may be required to get our aircrews and their aircraft home when the mission does not go according to plan. There are operational lessons to be learned by the successes and failures of our predecessors. Failing to properly study them during peacetime could cost us aircraft and crews when we are again engaged in war.

## In Context—To Understand our Adversaries and the Operating Environment

In addition to building experience before the campaigns and battles begin, military history provides the context needed to understand the OE. As Howard (1981) wrote, wars are "conflicts of societies, and they can be fully understood only if one understands the nature of the society fighting them" (p. 14). Fortunately, culture and geography do not change from generation to generation or from conflict to conflict, and while societies are not static, they generally maintain a significant link to their past. For example, many of the mistakes committed by the U.S. military during Operation Iraqi Freedom were the result of cultural nuance that was described a century earlier by T. E. Lawrence (1926) in his autobiography, *Seven Pillars of Wisdom: A Triumph*. Similarly, in Vietnam, GEN William Westmoreland failed to understand the nature of the war and the political will of his enemy, but he and his staff never took the time to even translate the French after-action report from a decade earlier into English (Murray, 2011, p. 119). There is no excuse for committing the same blunders when so much of the culture, sociology, politics, and geography are clearly described in history. For this reason, GEN George Patton read extensively

[1]See Berg, P.E., & Tilley, K.E. (2018). Task Force Normandy: The deep operation that started Operation Desert Storm. In J.D. Kem (Ed.), *Deep maneuver: Historical case studies of maneuver in large-scale combat operations* (pp. 139–156). Army University Press.

[2]See Fontenot, G., Degen, E.J., & Tohn, D.W. (2018). Army Attack Aviation: The 11th Attack Helicopter Regiment's deep strike in Karbala. In Kem, J.D. (Ed.), *Deep maneuver: Historical case studies of maneuver in large-scale combat operations* (pp. 157–176). Army University Press.

An AH-64A helicopter arrives at Rinas Airport, Tirana, Albania, on April 21, 1999, as a member of Task Force Hawk in support of NATO Operation, Allied Force.
Source: The National Archives.

on the Norman Campaigns of the 11th and 12th centuries prior to his Seventh Army's landing at Sicily (Blumenson, 1974, p. 283). Similarly, GEN Jim Mattis (2004) carried a small library with him into Afghanistan in 2001 and Iraq in 2003. Even our adversaries understand the value of history. In fact, it should be no surprise that the man who defeated the U.S. effort in Vietnam, Viet-Minh General Võ Nguyên Giáp, was a history professor (Fall, 1967, p. 237).

Understanding previous campaigns and the current OE allows commanders to make rapid decisions on the battlefield. In this sense, military history serves as a framework to foster creative and critical thinking. Battlefield instincts are not developed solely through training exercises and combat experience; rather, they are informed by years of self-study, group discussion, and intentional reflection. Therefore, it should come as no surprise that the greatest commanders of the past were ardent students of military history. For example, GEN George Marshall read after-action reviews from the Civil War and then led his subordinates on staff rides to many of the battlefields. This served as a guide for military education curriculums that have made staff rides and historical study a foundation of their programs. However, this should not be the only historical study an officer is exposed to during his career. From the Napoleonic Wars to the Global War on Terror, the best leaders and staff officers have been those who spent a lifetime studying history to develop their creativity and critical thinking ability.

Given the increasing tension in the international system, service members should focus their contextual study on the regions and adversaries that present the highest potential for future conflict and the greatest challenge to the U.S. military. Thus, Russia and China must be our primary focus. In studying Russia, we must understand their "Great Patriotic War" against Nazi Germany and their military blunders and subsequent adaptations in Afghanistan and Chechnya.[3] Moreover, while it has been more than 40 years since the Chinese last fought a war, there are still lessons to be learned from their 1979 war against Vietnam and the massive struggle for power in China fought from 1911 to 1949.[4] However, we cannot forget other problematic actors and regions such as Iran, North Korea, and parts of the Middle East and Africa. Developing the context to lead effectively against these adversaries will take years of study and reflection. Leaders must begin to study now and continue this professional study throughout their careers.

[3]For more on Russia, the author recommends: House, J., & Glantz, D. (2015). *When Titans clashed: How the Red Army stopped Hitler* (Modern War Studies). University Press of Kansas; Grau, L.W., & Gress, M.A. (2002). *The Soviet-Afghan War: How a superpower fought and lost*. University Press of Kansas; and Lieven, A. (1999). *Chechnya: Tombstone of Russian power*. Yale University Press.

[4]For more on China, the author recommends: Paine, S.C.M. (2012). *The wars for Asia 1911-1949*. Cambridge University Press; and O'Dowd, E.C. (2007). *Chinese military strategy in the Third Indochina War: The last Maoist war* (Asian Security Studies). Routledge, 1st edition.

## Conclusion

Critics of historical study have cautioned that the study of the past is incomplete, and history is not neatly arranged into a series of lessons; therefore, service members would be better served studying doctrine and focusing on training. This is certainly a valid point, and an important one for the students of history to understand. Studying military history is not a path full of clear options and easily solved moral dilemmas. But neither is war, international politics, or foreign policy. That is a poor justification for not studying history at all. History offers so many lessons about the complex OE we face and helps develop the creative and critical thinking we expect from our military leaders. As a result, members of our Nation's military, and the Army Aviation Enterprise, must place historical study at the center of their professional development and study it "in width, in depth, and in context" (Howard, 1981, p. 14). The lives of our Soldiers, our Aviators, and the men and women they support on the ground may depend on it.

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# Time for a Team Leader?

**By CW3 Christopher Scharff**

## Chalk. Serial. Lift.

These terms are well known and understood in Army Aviation today. We use them while conducting multi-ship movements and missions. Each of these roles and elements are vital to the way we fly. However, it may be time to add a new element to the way we think and fly in large-scale combat operations (LSCO).

There are certain benchmarks that are achieved in a pilot's professional progression. We first achieve proficiency at base-level tasks during readiness level (RL) progression and then move on to mission-level tasks for our appropriate commander's task list. Once we are proficient at these maneuvers, we are designated RL1, another way of saying we are ready to fly our unit's missions. At this point, we begin the path to to pilot-in-command (PC). On this path, we master our craft and start to truly understand our role in the unit's mission. Once we gain enough experience, we are boarded by the unit's commander, platoon leaders, and other PCs. In some cases, senior enlisted or non-rated crewmembers participate on the board as well. Beyond expertise in the aircraft, the board also evaluates a pilot's decisionmaking and judgement. Once identified as a PC candidate, we undergo a thorough evaluation—oftentimes by all members of the unit's standardization section—before being designated a PC.

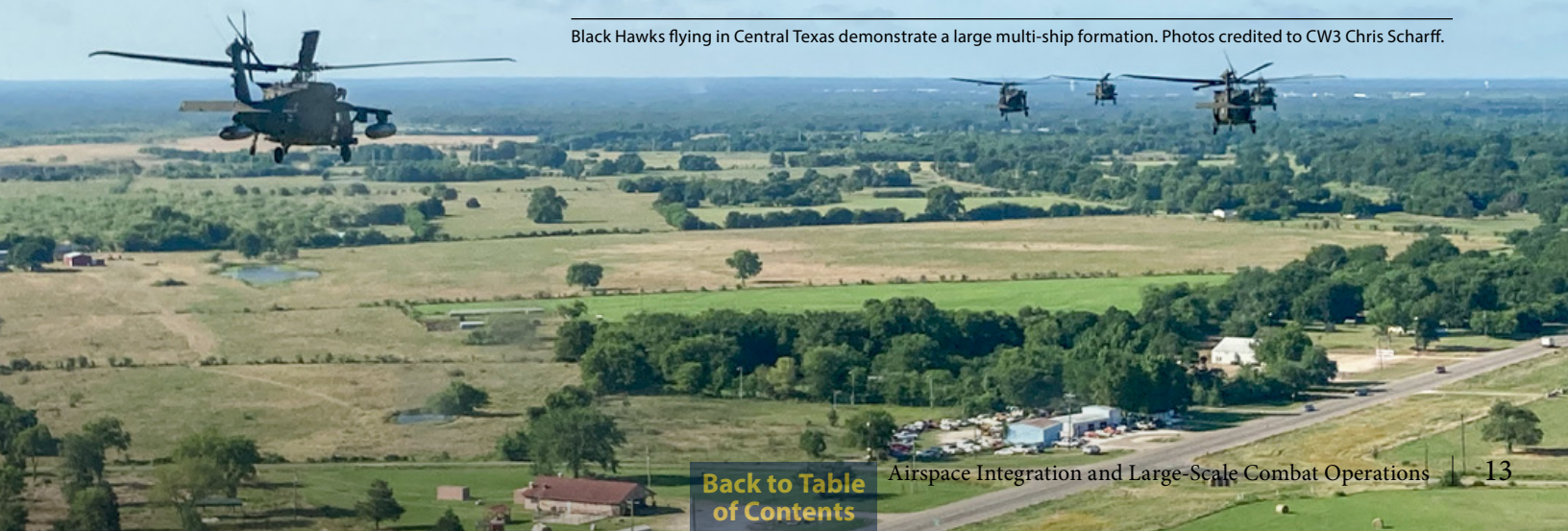
Making PC is a significant milestone in an aviator's career. For the first time, the new PC is responsible for all operations involving their aircraft. Having gained sufficient experience as a PC, this is when warrant officers (WOs) usually select a track, continue their career path, and specialize in a particular skill set for the unit. Commissioned officers who are designated PC are stronger candidates for company command. In either case, PCs then begin to train for the next step, which is often designated as an air mission commander (AMC).

The AMC program is different from unit to unit but often includes a series of academic classes tailored to expand the candidates' focus beyond their own aircraft and to address the overall success of the mission at hand. Many units allow for 1LTs and senior untracked CWO2s to be progressed, evaluated, and designated as AMCs. Career progression is a good thing, and the Army needs AMCs. However, junior AMCs can easily find themselves commanding a mission beyond the limits of their competency and experience. They may find themselves in charge of a large formation, handling aircraft beyond line of sight, or even with intermittent communications. These are just a few of the practical concerns of modern-day LSCO.

So now consider the possibility of a team element—not just in parlance—but in doctrine. This team could be two or three aircraft (to avoid single-ship operations) assigned to smaller missions or used as subordinate elements in larger formations. Of course, this element would need a person in charge. Currently, an AMC is defined as a rated aviator in command of all aircraft in a flight of two or more aircraft (Department of the Army, 2018, p. 27). Therefore, an AMC fits this element's role. However, a team leader (TL) role could ensure that AMCs are assigned to missions and flights more commensurate with their experience. This new position would allow junior AMCs to function as the commander of a smaller multi-ship flight, gaining valuable experience without biting off more than they can chew.

Teams could be identified by color, progressing from first to last in the order of the visible light spectrum: red, orange, yellow, green, blue, indigo, and violet. This would allow for them to be easily identified as part of a larger serial, i.e., Red Team, Serial 1. These teams would be able to take off and land as parts of a larger serial. Having the ability to split a serial into teams, rather than just chalks, allows for greater flexibility in command and control, while allowing for tactical separation of aircraft as well as enhanced contingency planning and execution. Using teams as part of a larger serial allows for better en route separation and a more manageable span of control for the serial's AMC.

Consider a 10-ship air assault for example. Imagine this enormous formation trying to navigate highly



Black Hawks flying in Central Texas demonstrate a large multi-ship formation. Photos credited to CW3 Chris Scharff.

contested airspace while remaining in a fixed formation. While command and control are easier with all parties together, the size of the formation may dictate undesirable flight parameters (higher altitude, slower airspeed, etc.). Additionally, if a threat engages the formation, the relatively close proximity to other aircraft makes actions on contact and evasive maneuvers more difficult and potentially deadlier.

Now imagine this same mission, but with the serial split into five teams. They depart the pickup zone together. At the start point, they split into their designated two-ship teams, each overseen by a TL. By building separation after the formation split, each team can more deftly navigate the terrain by utilizing combat cruise or a fixed-side combat cruise formation, which enables masking for much more of the en route phase. If a team is engaged, there are far fewer aircraft in the immediate vicinity, and the affected aircraft have more room to maneuver confidently. Other teams in the serial would be less likely to be engaged and might even find themselves in position to support their engaged wingmen with immediate extraction, support by fire, etc., as determined by mission requirements and AMC direction. Additionally, the teams could divert from the primary route to an alternate without becoming decisively engaged. Prior to the release point, the teams could adjust speed accordingly and regroup to mass combat power on the landing zone, allowing the ground force commander to achieve the tactical objective.

It bears mentioning that the planning for a mission as previously described would be more detailed, as time required to collapse the flight needs to be identified along with an air control point to begin this process. In-flight link up would become a standard procedure instead of the contingency it is today. In addition, after an aviation operation order or multi-ship brief, separate team briefs would be necessary to discuss team-specific contingencies and actions on contact. The risk common operating picture would need adjusting to allow for designation of TL as well. Despite the added complexity to planning and briefing the mission, I believe that separation of teams during the en route phase of a mission allows for the use of combat cruise formations, in turn allowing team leader and PC of each respective aircraft the freedom to maneuver. This maximizes the ability to fly tactically in response to mission, enemy, terrain, troops, time, and civil considerations. This would ensure mission success and aircrew survivability.

I believe that this proposed TL role perfectly fits the experience of 1LTs, pre-command CPTs, and company-grade WOs. The role allows the commander to give these individuals the chance to continue their progression as aviators, while not inadvertently handing them more than they can manage. It would allow a commander to sign off a 1LT, perhaps even prior to attaining PC status (according to the unit standard operating procedure, of course) as a TL, allowing for valuable experience as an Army Aviation leader. It would allow the same commander to assign a CW2 aviation safety officer, aviation mission survivability officer (AMSO), instructor pilot, or maintenance test pilot as a TL, giving them the opportunity to expand their influence beyond their own aircraft without giving them command of most of the unit while airborne. Additionally, since a TL is essentially a "junior AMC," they would have the ability to command two to three ship missions and training flights.

The intent would not be to limit the unit but rather to better manage experience. Of course, in adding this TL position, we would retain the AMC position as well. However, it would be typically reserved for brigade, battalion, and company commanders, as well as perhaps the unit's most senior and tested tracked WOs. As the TL demonstrates expertise and progresses to a senior company-level or battalion-level position, the commander could have them conduct more in-depth academic classes. They might also conduct a "full" AMC check ride, consisting of a complex scenario complete with mission changes and contingencies. Perhaps an ideal place to offer this higher-level AMC training would be in professional military education. For the WO, the Advanced Warfighting Skills Course offers the best opportunity for this training. For the CPT, the Aviation Captains Career Course fits the bill. If a week were built into each of these courses, it would permit the in-depth teaching of academics to the most likely candidates, as well as standardize this role across the Aviation Branch. Once these trained aviators arrive at their units, it would be at the discretion of the unit commander and standardization section to determine when to evaluate them in the full AMC role.

The fight of tomorrow will likely challenge the Army and force many changes to the way we fly, fight, and win. By formally incorporating a doctrinal team of two to three aircraft and a dedicated TL, we can get ahead of some of these challenges. I believe by implementing this today and honing our execution with these elements, we can stand even more ready to oppose and defeat the adversary of tomorrow.

Air Cav!
Above the Best!

CW3 Scharff is a UH-60A/L/M AMSO with nearly 20 years of service. He is passionate about teaching and training his fellow aviators on all things AMS-related, especially tactics. He thanks CW4 J.D. Shull for his friendship and editorial advice.

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A U.S. Army AH-64D Apache helicopter prepares to land aboard Afloat Forward Staging Base (Interim) USS *Ponce* (AFSB(I) 15), during an exercise. U.S. Navy photo (2012) by MC1 Jon Rasmussen/Released.

# Letter to the Editor

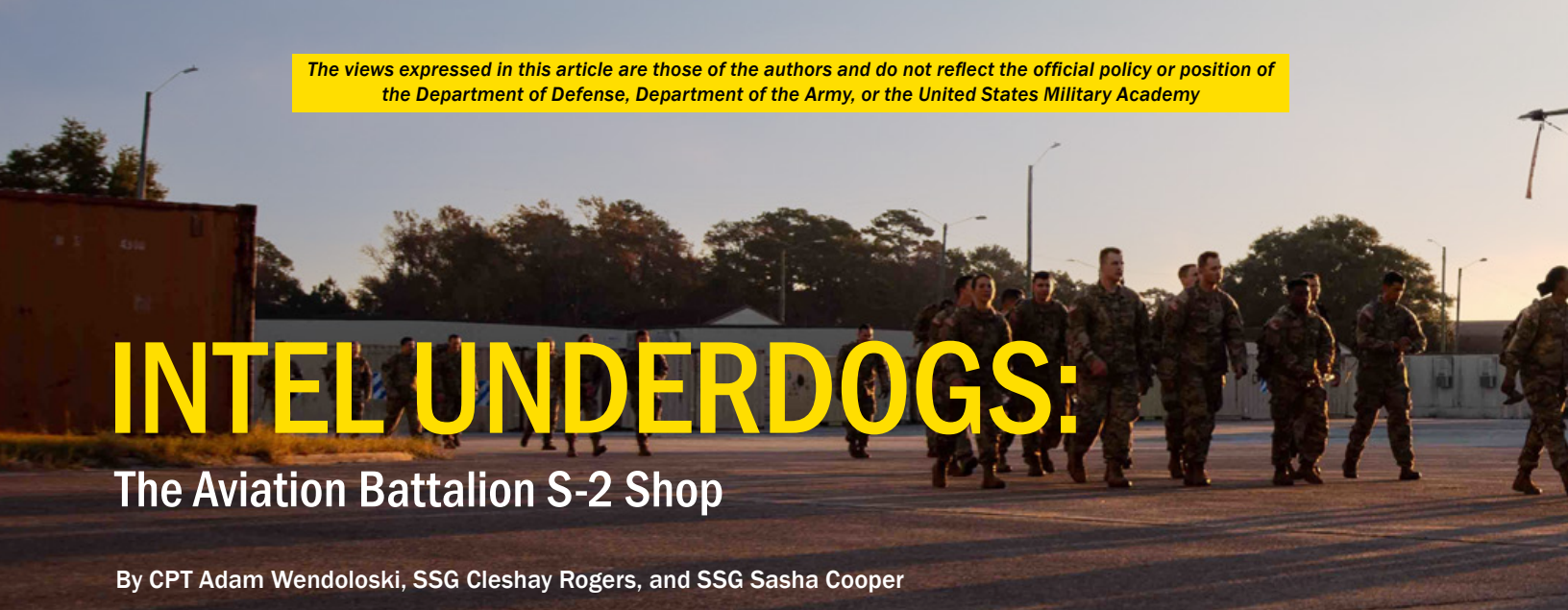
The "Aviation Unit Culture Redux" discussion in the April-June 2022 article by LTC Bolton and MAJ Britten resonated with me. The "tension within the branch, particularly for junior commissioned officers," was one of my earliest reasons for looking to leave aviation for a functional area. My own frustration was that, rather than building readiness level progression and pilot-in-command qualification into a formal training pipeline for future flight platoon leaders and company commanders, we advise lieutenants and junior captains to make friends with the right instructor pilots and find the hours outside of their regular duty day, often in disregard for fighter management rules.

With that said, I've encountered a similar ongoing discussion within my functional area community, FA26 Information / Data Network Engineering. We are supposed to provide the Army with technical expertise, but much of that expertise must be learned on the job, and some people disparage FA26 officers for "hiding" in the server room or the comms closet and spending time with their "hands on the keyboard." Like flying, I think many people see it as someone off having fun, not someone contributing to readiness by gaining and maintaining professional knowledge and skills.

So, I suspect that this is a broader cultural issue across the Army officer corps, which often views technical work as inconsistent with officership. While thinking about how to address this within their own branch, I encourage aviation leaders to give similar consideration to any low density, functional area, or special staff officers who might also be in their formations.

Tim Walsh
MAJ, AV (26)
Naval Postgraduate School

*The views expressed in this article are those of the authors and do not reflect the official policy or position of the Department of Defense, Department of the Army, or the United States Military Academy*



# INTEL UNDERDOGS:

## The Aviation Battalion S-2 Shop

**By CPT Adam Wendoloski, SSG Cleshay Rogers, and SSG Sasha Cooper**

Aviation intelligence at the battalion level finds itself an oddity among the greater military intelligence community. The Army codes many aviation intelligence billets for 15-series, or aviation personnel, instead of the traditional 35-series, military intelligence. Furthermore, Army combat aviation brigades (CABs) lack the organic intelligence capabilities found in traditional brigade combat teams (BCTs). This means that aviation S-2 billets are not as sought after as those in a BCT or perhaps not viewed as highly by the military intelligence community. This causes knowledge gaps in how to best leverage aviation battalion S-2 shops and results in underutilization. An S-2 shop might find itself undermanned or relegated to supporting the needs of the S-3 shop instead of driving battalion operations with intelligence. That said, the aviation battalion S-2 shop provides detailed, actionable intelligence across the battlespace and serves to enhance professional development initiatives across the battalion.

### Aviation Intel in Multidomain Operations

Evolving near-peer threats underscore the need for an aviation intelligence community that is aggressive in providing the force an upper hand against our adversaries. The April 1, 2022, raid into Belgorod, Russia, by Ukrainian helicopters (Cable Network News [CNN], 2022) highlights how aviation S-2s might contribute to their organization. The Ukrainian aircraft reportedly flew under advanced Russian air defense systems and struck targets in the deep area (Winkie, 2022). One speculates that perhaps an aviation S-2 or equivalent could have been involved in the planning of such an operation.

### Echelons Above Battalion?

The aviation battalion S-2 shop holds a unique relationship with higher echelons in comparison to its maneuver counterparts. Aviation battalions may or may not deploy under control of a CAB headquarters and often deploy in an aviation task force configura tion. Although a battalion organization, an aviation battalion S-2 may find itself reporting to division and above. Aviation battalion S-2s are often not subordinated to maneuver BCTs they are supporting.

Aviation task forces always find themselves operating in areas overlapping multiple ground units. This means the aviation S-2 is looking at the same operational picture as division or higher. The aviation S-2 shop is also involved in suppression of enemy air defense planning, which is a joint effort and not the role of a singular battalion element. Aviation S-2 shops with attack aviation must leverage collection platforms to strike targets on the division and above's high-value and high-payoff target lists. This information further drives the aviation battalion commander's ability to commit aircraft at an operation's decisive point.

Although CABs lack robust organic collection, the aviation battalion S-2 shop should not undertake a 'baby-bird' role where it assumes a supported ground force will regurgitate the information it needs. Aviation battalions also produce unique reporting. Their aircraft operate over a substantial battlespace, and thus are capable of answering priority intelligence requirements. However, the S-2 must tell the crews what to look for and how to document it. The S-2 should also know what to do with the information and how to distribute it (Hasbrouck, 2018).

An aviation battalion S-2 shop must aggressively seek information to understand the division and corps picture. It has the capability to quickly strike targets in the deep area long before they become a concern for the ground force.

### Extending Influence

Aviation battalions and aviation task forces support a myriad of forces. The aviation battalion S-2 shop should build relationships with both ground and air units sharing the battlespace. This includes allied units and provides an opportunity for increased information sharing or increased timely reporting. It also provides greater awareness in the event of a precautionary landing or for planning operations in an unfamiliar area.

Beyond just attack aviation, aviation battalions or task forces support lift and medical evacuation (MEDEVAC) operations. The aviation battalion S-2 shop needs the greatest amount of situational awareness before it briefs a flight crew

Soldiers at Hunter Army Airfield, Savannah, Georgia. U.S. Army photo by SGT Savannah Roy/3D Combat Aviation Brigade Public Affairs.

responding to nine-line MEDEVAC or sling-loading M777 howitzers for the ground force (Piha, 2021a). Maximizing information sharing ensures a timely response to the needs of the ground force and the safety of the flight crews. In doing so, the aviation S-2 shops are helping ground units solve logistics problems. The shop's threat-to-aviation brief enables safe delivery of much-needed supplies to ground units and presents a win-win for all involved.

## Aviation S-2 Enablers

Despite the lack of organic collection assets, aviation S-2 shops deploy or attend combat training center rotations with geospatial analysts (35G) and geospatial engineers (12Y) who can prove invaluable if utilized correctly (Piha, 2021b). It is incumbent on the S-2 shop and battalion staff to understand how they best support the organization. The CAB headquarters normally provides these Soldiers; however, the S-2 must advocate for their best use, lest a detail-hungry headquarters company gobble them up. It is pure travesty if a highly trained analyst or geospatial engineer is pulling head count on the chow tent rather than helping to target enemy armor.

Aviation battalions cannot understate the utility of the geospatial analysts, especially in a near-peer fight. The Army trains them in analyzing data from a variety of sources. Their specialty extends far beyond providing images for helicopter landing zones (HLZ) (Army COOL, 2022). In the authors' experience, if used correctly and provided a venue to receive this reporting, the geospatial analyst makes units with attack aviation capability incredibly lethal. They believe that this lethality also impacts supported ground forces and makes their job easier.

In contrast, geospatial engineers are best suited for HLZ analysis and providing detailed information on the terrain (Army COOL, 2022). In an aviation task force, this is a critical function because an S-2 shop is also responsible for lift and MEDEVAC. Geospatial engineers further provide the capability to better plan forward arming and refueling point (FARP) locations and should have a relationship with any ground elements in the task force.

Aviation S-2 shops also work closely with Air Force Staff Weather Officers (SWO) (James, 2014). Ground units normally rely on the S-2 shop for weather analysis, and intelligence personnel are trained on interpreting weather effects. However, S-2s are not qualified to give a legal weather brief to flight crews. The Air Force SWO fills this purpose.

## Not Just Security Clearances

S-2 shops in garrison traditionally handle such tasks as security clearances and other battalion security management programs. As others have pointed out, the S-2 shop is capable of much more. In the aviation battalion, the S-2 shop should be leveraged as a tool for the organization's professional development (Beverly et al., 2021).

Pilots have a requirement to complete certain training and academic requirements overseen by the battalion standardization office. The S-2 shop can play an integral role in this through briefing current threats to aviation. The S-2 shop and battalion standardization officer should communicate frequently to ensure information is beneficial to the training. The S-2 shop can also support training for the flight companies. This serves to establish shared understanding and mutual trust between flight companies and the S-2 shop, congruent with the Army's Mission Command doctrine (Department of the Army, 2019, p. viii).

Mission Command is further enabled when aviation mission planners are inclusive of their S-2 shops. Lack of knowledge on the shop's capabilities means the S-2 shop receives short notice information about planned operations and limits the time analysts have available to use all their tools. A well-developed relationship between mission planners and their intelligence support is vital for shared understanding.

Aviation battalions have a ground component with an enormous logistical component that the S-2 shop should not overlook. This includes maintenance support, ammunition, and FARP operations. The S-2 shops should understand ground and air threats to the battalion and provide its organic units the information required to successfully plan its operations.

## Professional Opportunities

Serving in the aviation intelligence community presents its own professional opportunities. Personnel in intelligence billets should seek these out, but aviation command teams should also promote and support these opportunities. For example, the Air Cavalry Leaders Course at Fort Rucker, Alabama, develops "the fundamentals of reconnaissance and security" (Morris, 2015) as part of the military decision-making process in relation to supporting a ground BCT. It is not simply for aviation personnel but fundamentally develops intelligence officers working with an aviation staff.

Aviation S-2 shops also work closely with joint partners. In a given operation, they may need to coordinate with the Air Force, Navy, and Marine Air Wing elements. This presents an opportunity to seek joint credit, network across branches, and learn a broad range of capabilities.

## Conclusion

Military intelligence personnel in Army Aviation units are invaluable when properly utilized. They are crucial to success across the battlefield in a near-peer fight. Battalion-level S-2 shops should continue visualizing future threats and continue to professionalize their unique role within military intelligence. Aviation commands and staffs should also ensure integration and professional development of their intelligence personnel. The next fight requires decisive, aggressive S-2 shops that are confident in their ability to communicate timely and accurate analysis to aviation commanders.

CPT Adam Wendoloski is an active-duty officer currently working at the Simon Center for the Professional Military Ethic at the United States Military Academy as an assistant professor. In his previous assignment, he served as an aviation battalion S-2. CPT Wendoloski holds an MA in International Affairs from the University of North Georgia.

SSG Cleshay Rogers is an active-duty noncommissioned officer currently serving in the 82D Airborne Division. She has extensive experience as an intelligence analyst in combat aviation brigades. SSG Rogers is a graduate of the Military Intelligence Senior Leaders Course.

SSG Sasha Cooper is an active-duty noncommissioned officer currently serving in the 66th Military Intelligence Brigade. She previously served as an intelligence analyst and noncommissioned officer in an attack aviation S-2 shop. She is a graduate of the Military Intelligence Advanced Leaders Course.

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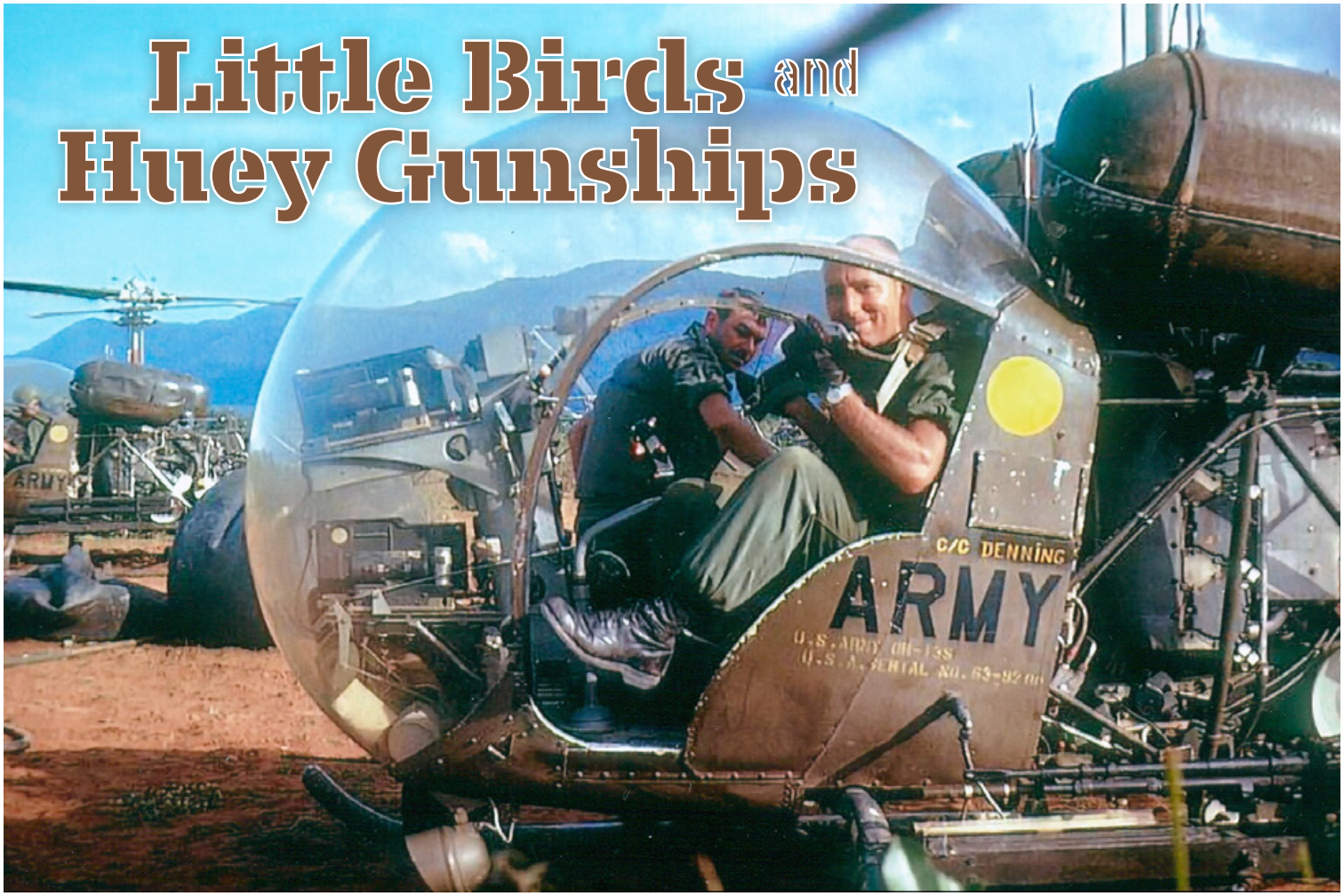
A 110th Aviation Brigade CH-47 Chinook helicopter sits in the morning mist at Knox Army Heliport, Fort Rucker, Alabama. U.S. Army photo by SPC Jordan Arnold.

# Little Birds and Huey Gunships




CWO Gerry Grimm in his Little Bird. Photo by SP4 Rich Denning.

**By MSG Michael L. Kelley (Ret.)**

When I arrived at the Fort Rucker, Alabama, Army Aviation Center in October 1964, I was an 18-year-old city kid from Boston whose only venture outside of my neighborhood was a trip to Cape Cod, Massachusetts. In the Deep South of southern Alabama, a new world opened up that was a social and educational experience for me. Prior to that, I had been a typical C-grade high school student studying automotive technology at Rindge Technical High School in Cambridge, Massachusetts, just a few city blocks from the world-famous Harvard University. City kids like me would not even be allowed inside the gates of that esteemed educational facility because my father was a truck driver, and my mother was a housewife and part-time waitress. Their combined incomes would not even pay for 1 day of study at Harvard.

When I graduated from high school, I had to get a job. I ended up as a stock boy in a Boston factory where I earned $50 a week with no future. Bored out of my mind, I joined the Army, and because I scored well on the technical aptitude tests, the recruiter offered me a shot at going to aviation school to train as an aircraft mechanic. On August 17, 1964, I signed up for a 3-year hitch, said goodbye to my family and friends, and left for basic training at Fort Jackson, South Carolina, as a recruit with Company D, 2D Battalion, 1st Brigade Combat Team Regiment. The fun, travel, and adventure had begun.


Welcome to Fort Rucker: Private Kelley in 1964.
Photo courtesy MSG Michael L. Kelley (Ret.).

Upon completion of basic training, I traveled with about 40 other new Soldiers on a chartered bus to Fort Rucker, where a group of noncommissioned officers (NCOs) marched us to the Student Company Headquarters. There, we were in-processed for assignment to the aviation school. I remember how we called the NCOs "Lifers" because they were career Soldiers. I swore I would never be a Lifer, but I ended up loving Army life and all the friendships that I made. After my 3 years of service, I went home but

PFC Mike Kelley, Crewman, CH-21. Photo courtesy MSG Michael L. Kelley (Ret.).

soon missed Army life. So, I re-enlisted and became a Lifer.

My favorite part of aviation school was the hands-on training where we got to turn wrenches, make adjustments, and troubleshoot the engines and subsystems. I discovered that the aircraft were not the simple old hot rod Fords and Chevies that I built and drove as a teenager.

The aircraft were complex machines that required 100 percent first-class maintenance 24-7. I remember one of my instructors, a big 6-foot Korean War MSG, warning us students that if the aircraft we worked on had a mechanical problem in flight, the pilot could not pull over to the next cloud and open the hood like a car. If we made a mistake, it could kill the aircrew and destroy the aircraft. That sure put the fear into me.

After attending three different training schools: Basic Entry Course, OH-13/OH-23 classes, and CH-21 classes, I graduated and became a military occupational specialty-qualified aircraft technician. Soon, I was on my way to my first permanent change of station to Davison Army Airfield at Fort Belvoir, Virginia, near Washington, D.C. I was assigned to a CH-21 Shawnee twin rotor transport unit, the 3D Transportation Company (LT Helicopter) of the Military District of Washington.

On weekends, when not on duty like kitchen police or details, my buddies and I went exploring the downtown area of D.C. One time we went up to Georgetown to visit a few places where the college girls hung out. I was way out of my class! The nation's Capitol was an exciting place to be in that early era of social changes as the Civil Rights Act and the Vietnam War were in their early stages. I was right there in the middle of it. I remember one warm spring evening, we stood in front of the White House looking in at the lighted windows and wondering what President Johnson was cooking up for us young Soldiers. As it turned out, he was about to escalate the Vietnam War and soon, we would be invited to that jungle party. In July 1965, he ordered the new airmobile division, the 1st Cavalry Division, to deploy to the war zone. On November 8, 1965, I was issued my orders for assignment to the 1st Cavalry Division (Airmobile), which had 400 helicopters.

After a 2-week leave at home, I boarded an American Airlines 707 jetliner at Boston's Logan Airport and flew out to California, where I reported to the huge Oakland Army Base for shipment to South Vietnam. A week later, I boarded a chartered Pan American 707 and was on my way to Saigon's Camp Alpha Replacement Depot. An Air Force Hercules C-130 took me north to the Central Highlands of Vietnam to join up with the Air Cavalry Division. I thought I would be assigned to a maintenance unit, but the Army had better use for my aviation talents. The Army placed me into the reconnaissance element of the division, Troop C, 1st Squadron, 9th Cavalry Regiment, as a crew chief-door gunner of the weapons platoon, also known as the "Gunship Red Platoon."

My first combat mission was called "Operation Clean House" on December 17, 1965, in support of the 3D Brigade's search and destroy action in the Suoi Ca Valley, not far from the South China Sea coast, north of Highway 19. I was the new, untested rookie crew chief-door gunner of a Bell Huey UH-1B Gunship, tail number 62-0063. I was never trained on a Huey turbine engine and was told that I would gain my Huey skills from OJT (on-the-job-training). Added to that were the weapons. I had no experience with the toy-like plastic M-16E1 rifle and the M-60 machine gun, which was made in Saco, Maine, not far from my home in Boston. I was trained on the M-14 rifle and the air-cooled World War II .30 caliber machine gun. I learned quickly how

SP4 Kelley with Little Bird Scout in Kontum. Photo courtesy MSG Michael L. Kelley (Ret.).



Back to Table of Contents

important it was for a Soldier to adapt to any situation in combat. The veterans of the first big battle in the Ia Drang Valley of November 1965, taught me how to perform my duties. They were called "The First Shift" because they deployed to Vietnam from Fort Benning, Georgia, and conducted the early actions before I arrived a few weeks after Ia Drang. I was lucky to have them mentor me. Specialist 5 Titchnell broke me in as a door gunner before he was wounded in action. I was given a new door gunner to fly with me—a 19-year-old draftee named PFC Hosie Ward. Together, we made up the "Green Crewman" team. After many firefights with the Viet Cong and North Vietnamese Army, we became combat veterans.

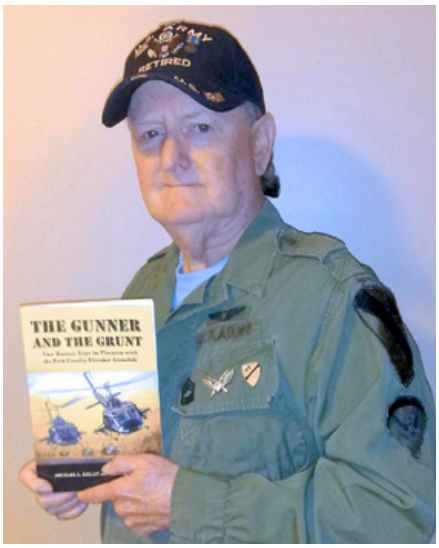
Troop C Lift Plt Slick Air Assault with the Blues moving out near Cambodia, 1966. Photo by SP4 Rich Denning.

After serving with the weapons platoon Gunships for 4 months, I was sent on rest and relaxation to Okinawa, Japan, and when I returned, I was assigned to the aero scout platoon, which flew my old OH-13S Sioux I had trained on at Fort Rucker. While flying as a crew chief-observer-gunner with the scouts on low level reconnaissance missions from the Cambodian Border to the Bong Son Plains, I accumulated time in-country. When my veteran platoon NCO rotated home, I was made the acting platoon sergeant and was in line for advancement to E-5. I was responsible to have all the aircraft flight worthy for combat missions. A big task for a 20-year-old kid. The veterans had taught me well, and I got the job done and made SP5.

During my tour of duty in Vietnam from 1965 to 1966, I met another Boston kid, PFC Peter Burbank, who was an airborne rifleman "Grunt" in our aero rifle "Blues" platoon, and we became good friends. I flew above him on many missions as his reconnaissance platoon slogged through the jungles and mountains. Our aircraft provided suppressive machine gun and rocket fire to his platoon during battles. After the war, we remained lifelong friends. Fifty years later, I wrote a book about our experiences in Vietnam.[1] Take a moment to check out CW5 Momeny's review of that book, *The Gunner and the Grunt: Two Boston Boys in Vietnam with the First Cavalry Division Airmobile*, in this issue of *Aviation Digest*.

Not bad for a Lifer!


SP5 Mike Kelley and PFC Pete Burbank, two Boston boys in An Khe, Nov 1966.
Photo courtesy MSG Michael L. Kelley (Ret.).




Michael Kelley is a freelance writer who served 7 years on active duty and 14 years in the Army Reserve Troop Program holding duty positions from maintenance platoon sergeant to senior infantry battalion staff NCO. He holds a B.A. in History from Boston State College.

[1]The book, *The Gunner and the Grunt: Two Boston Boys in Vietnam with the First Cavalry Division Airmobile*, is available upon request by emailing the author at michaelkelley67@yahoo.com

# I HAVE SOMETHING TO SAY!

## How to Submit a Department of the Army Form 2028

**By CW3 Michael Ray (Mike) Holmes**


Soldiers at Lowe Army Airfield on Fort Rucker, Alabama, July 20, 2022. Photo credited to CW3 Michael Ray (Mike) Holmes.

Have you ever had an idea or wished to share an experience that could impact Army Aviation doctrine? Do you wish to request changes or make comments regarding Aviation Branch standard operating procedures (SOPs)? The Doctrine Branch within The Directorate of Training and Doctrine (DOTD), Fort Rucker, Alabama, would like to hear from you! All you have to do is send your completed Department of the Army (DA) Form 2028, "Recommended Changes to Publications and Blank Forms" to us.[1]

Although the process of submitting a DA Form 2028 requires a few more steps than just emailing someone you know at DOTD, there are several reasons why it's the preferred course of action:

- DA Form 2028s hold us accountable: we must action each one, providing feedback to the author as to whether or not we can incorporate the comment into existing or future doctrine.
- The formal process allows for historical tracking regarding what information has changed and who requested the change.

The Doctrine Branch is continually looking for new comments across the Aviation Enterprise. Our goal is to provide the best product possible from information gathered across the Army force. Please do not hesitate to send your observations and thoughts via DA Form 2028! **Best practices:**

- Please email your DA Form 2028s to usarmy.rucker.avncoe.mbx.doctrine-branch@army.mil for review. Individual DOTD personnel end up wearing multiple hats, and this ensures your comments are reviewed expeditiously.
- If you have feedback on multiple publications/SOPs, please break it into separate DA Form 2028.
- If in doubt about how to fix an identified issue (e.g., you are unsure what to change the verbiage to), still reach out and help us identify the problem, and start working on a solution!
- If you have best practices to share, e.g., from a unit training event, mission, or deployment, please also reach out to our lessons learned element within the Tactics Branch at usarmy.rucker.avncoe.list.atzq-tdd-t@army.mil

As our force continues to modernize and face new threats, we must employ lessons learned from leaders at all echelons of command. We look forward to hearing from you!

Biography:
CW3 Michael (Mike) Holmes is a 2015 graduate of Troy University (B.S. degree in Psychology) and will graduate from The University of Alabama (M.A. degree in Global Business Management) next spring. Mike began his aviation career as a UH-60M pilot at 2ᴅ Battalion, 25th Aviation Regiment, Schofield Barracks, Hawaii, in 2014. He next served as a medical evacuation Instructor Pilot (IP) with the 6th Battalion, 101st Aviation Regiment Fort Campbell, Kentucky, later completing the Senior IP/Instrument Flight Examiner Course in January 2022. He is currently a Doctrine Developer and Army Techniques Publication (ATP) Manager for DOTD, while also serving as a UH-60M IP/Instrument Flight Examiner at Lowe Army Airfield. He is also the lead on the Aviation Branch SOP, Training Circular (TC) 3-04.4, and TC 3-04.12. Mike focuses on the ATP 3-04.1 and Field Manual 3-04.

[1]You can find DA Form 2028 on the Army Publishing Directorate website at https://armypubs.army.mil/ProductMaps/PubForm/Details.aspx?PUB_ID=1004927



Back to Table of Contents

# AIR TRAFFIC SERVICES DOCTRINE UPDATE

**By Mr. Joseph P. Sablan, Jr.**

In Army Doctrine Publication [ADP] 1-01, "Doctrine Primer," the Army defines Army doctrine **"as 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"** (Department of the Army [DA], 2019a, p. 1-2) (Figure).

In DA Pamphlet 25-40, "Army Publishing Program Procedures," Army Training Circulars (TCs) are **not** listed as part of doctrine hierarchy; rather, they are Army Training Publications (DA Pamphlet 25-40, pp. 54–55).

"Army training publications describe tactics, techniques, and procedures used by Army forces to **train and implement the fundamental principles of doctrine** [emphasis added]. These publications provide unit or individual training information. They also implement ratified international standardization agreements. The general categories of publishing media are STPs [Soldier Training Publications] and TCs, both of which are DA-authenticated. Training publications describe the following:

a. Individual military occupational specialty and common tasks.

b. Collective and individual tasks, conditions, and standards.

c. Relationships between collective and individual tasks, including training exercises.

d. Recommended sustainment training frequencies.

e. Unit or individual Soldier training information that does not fit standard requirements" (DA Pamphlet 25-40, pp. 54–55).

While TCs are not doctrinal in nature, Air Traffic Services (ATS) TCs are enforced in their mandatory utilization by Army Regulation 95-2, "Air Traffic Control, Airfield/Heliport, and Airspace Operations" (DA, 2016). This stipulation manages the inherent risk that comes with ATS and aviation operations by ensuring the best and vetted tactics, techniques, and procedures are currently in use.

The U.S. Army Aviation Center of Excellence (USAACE), Fort Rucker, Alabama, publishes three different ATS doctrine manuals.

- Army Techniques Publication (ATP) 3-04.6, "Air Traffic Services Operations." This 2022 manual provides techniques for planning, preparation, and execution of ATS. It guides the theater airfield operations group, the airfield operations battalion, and the ATS company commander's execution of tactical missions. As of January 12, 2022, when Change 1 was published, this manual includes appendices discussing in detail deployment/redeployment lifecycle, Air Traffic Control (ATC) systems, risk management, and a curated collection of mission reports and time-distance tables for planning (DA, 2022).
- The second manual, scheduled to be published by January 2023, is ATP 3-04.16, "Airfield Operations." This manual will serve as a guide for aviation commanders, staff, and Soldiers, as well as leaders and instructors at military institutions, students, and doctrine and training developers. This ATP will provide primary aspects of airfield procedures throughout the range of military operations.
- The third doctrine manual is TC 3-04.15, "Air Traffic Control Facility Operations, Training, Maintenance, and Standardization," (DA, 2019b). Just as with the upcoming ATP 3-04.16, this TC serves as a guide for aviation commanders, staff, and Soldiers, as well as leaders and

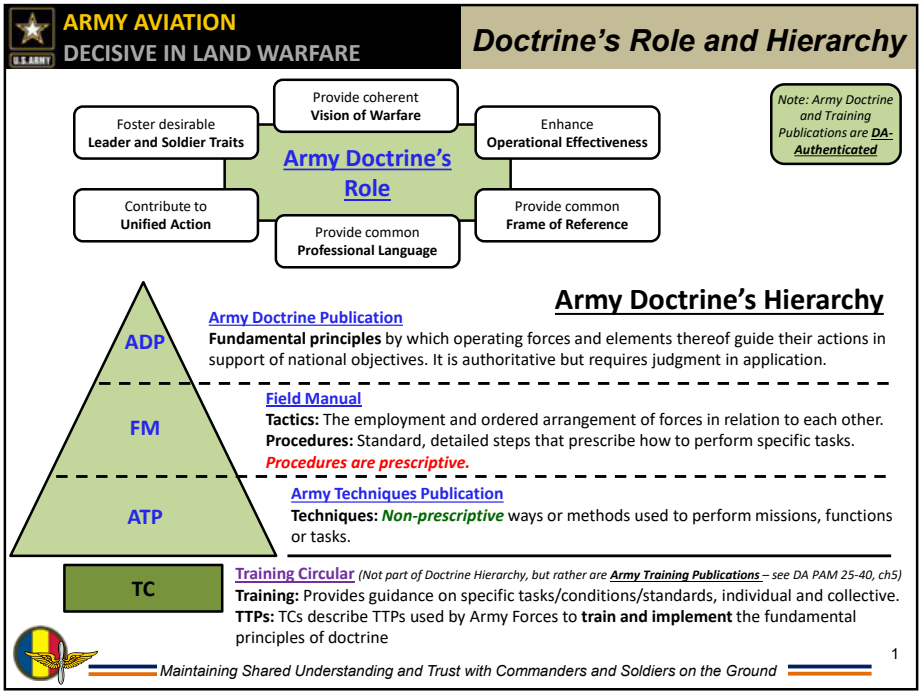



*Figure.* Doctrine hierarchy (MacKnyght & Schapker, 2022).

UH-60 Black Hawk helicopters from the New Jersey National Guard's 1st Assault Helicopter Battalion, 150th Aviation Regiment. U.S. Army photo by MSG Matt Hecht.

instructors at military institutions, students, and doctrine and training developers. Additionally, the TC provides instructions, standards, and guidance for operating and managing air traffic facilities. It also outlines training and certification standards for air traffic controllers and ATC maintenance technicians.

Upon publication of the updated Army Regulation 95-2, TC 3-04.15 nomenclature will be changed to ATP 3-04.15 (DA, 2019b).

The ATS doctrine revisions we've discussed in this article show that Army doctrine is continually being evaluated and updated. The remarkable thing about these updates is that Soldiers are *encouraged* to be involved by offering their comments and recommendations. As a matter of fact, many students in their initial 150A certification course (ATASMTC) have contributed to doctrinal updates.

While filling out and submitting DA Form 2028, "Recommended Changes to Publications and Blank Forms" (2018), is a great way to make your voice heard, it's important to fully understand the topic on which you're commenting. For example, some of the misinterpreted comments and recommendations received by USAACE, Directorate of Training and Doctrine (DOTD), involve the differences between ATS and ATC. For your reference, here are their definitions:

In aviation, ATS is "A generic term meaning variously, flight information service, alerting service, air traffic advisory service, air traffic control service (area control service, approach control service or aerodrome control service)" (SKYbrary, n.d.).

Air Traffic Control is "the process or system by which the movements of aircraft are monitored and directed by ground personnel communicating with pilots by radio" (Merriam-Webster.com, 2022).

If you're asking why those definitions aren't from an Army or Department of Defense publication, so are we! While Joint Doctrine defines Airspace Control, ATS, and ATC are not formally defined. It's something we'll be engaging at the Center of Excellence level with the Combined Arms Center in the near future.

Let us hear from you! Simply fill out DA Form 2028 and send it to USAACE DOTD at usarmy.rucker.avncoe.mbx.doctrine-branch@army.mil.

Author's note: The author would like to extend his appreciation to Mr. Brian Swensen, the primary instructor for the Army Air Traffic and Air Space Management Technician Warrant Officer (150A) basic and advanced courses, who encourages and challenges his students to delve deeper into our doctrine. Students of these courses are now using ATC doctrine as a way to understand why things are performed a certain way, as opposed to accepting procedures without question. Recommendations based on these efforts are submitted via DA Form 2028, allowing us to continue reaching the current generation of Soldiers with updated verbiage and clarifications, as needed.

Biography:

Mr. Joseph (Joe) Sablan, Jr., enlisted in the Army in March 1997 as a Fire Direction Specialist (13E). He was reclassed to ATC Operator (15Q) in August 2002. Mr. Sablan retired on January 31, 2018. He has been with DOTD since 2019 and is currently employed as an ATC Specialist. Joe graduated from Embry-Riddle Aeronautical University with Bachelor of Science in Aeronautics.

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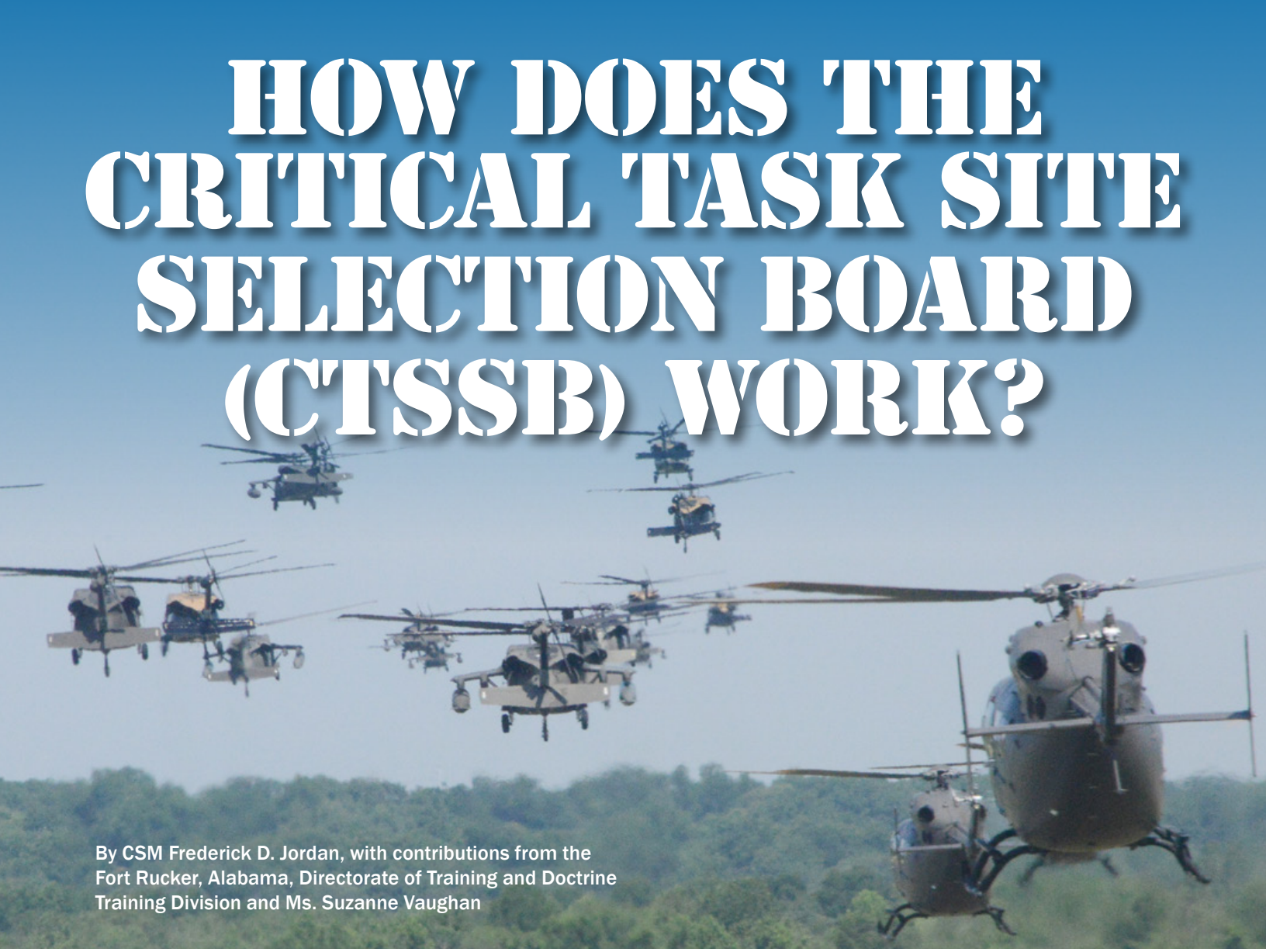
# HOW DOES THE CRITICAL TASK SITE SELECTION BOARD (CTSSB) WORK?



By CSM Frederick D. Jordan, with contributions from the Fort Rucker, Alabama, Directorate of Training and Doctrine Training Division and Ms. Suzanne Vaughan

U.S. Army Military District of Washington's Army Air Operations Group, 12th Aviation Battalion, lift off from Davison Army Airfield beginning a 1-hour training flight over the skies of the National Capital Region, June 4, 2014. U.S. Army photo by Cory Hancock, JFHQ-NCR/MDW Public Affairs.

Training is the cornerstone of the Army. Every Soldier must go through specialized training to master the tasks critical to their job success. Throughout their career, these tasks evolve to match the increased responsibility placed on our Aviation warfighters. The question arises: Who decides what unique tasks comprise the skill set that defines a specific job? The answer to that question is—the Soldier in the field performing the job. That is the premise behind a Critical Task Site Selection Board (CTSSB).

A CTSSB is held for a specific military occupational specialty (MOS)—Army job—or additional skill identifier (ASI)—extra skills, training, and qualifications a Soldier may have—approximately every 3 years and is comprised, by invitation, of Soldiers who hold and are currently working in that MOS or ASI. The importance of being a member of a CTSSB cannot be overstressed. This unique opportunity gives the Soldier a key role in shaping the future of their MOS or ASI, and therefore, in shaping the future of Army Aviation.

The CTSSB is the process that validates, creates, and/or revises the Individual Critical Task List (ICTL).[1] It is imperative that leaders in the operational force select the right participants for this task. These subject matter experts are absolutely vital to the board's success. As we continue our transition from counterinsurgency to large-scale combat operations, it is paramount that we get this right. The board members should represent the Aviation Enterprises' knowledge and skill in that MOS as they determine what tasks are critical to the MOS or ASI and at which skill level the task is accomplished. Additionally, board members specify where that task should be trained, whether in a resident course or at the unit. The CTSSB is the formal ending to the job analysis cycle that culminates with an ICTL. Without

[1] "Individual Critical Task Lists are a list of tasks deemed critical by a Critical Task Site and Selection Board which **must** be performed to accomplish his/her mission and duties and to survive in the full range of Army operations." U.S. Army-Training for the Corps @ https://usarlatraining.army.mil/analyst#:~:text=Individual%20Critical%20Task%20List%20%28ICTL%29%20Individual%20Critical%20Task,survive%20in%20the%20full%20range%20of%20Army%20operations

a CTSSB, you have jobs that evolve without record—leading to bayonet training for a technological war. It's about relevance! Continuing to train and send Soldiers to units unprepared to execute at the highest level, or unit level training that is misaligned, is something we can't afford. The U.S. Army Aviation Center of Excellence Directorate of Training and Doctrine's (DOTD) Training Division, Fort Rucker, Alabama, uses the CTSSB process to ensure Soldiers are prepared to do their jobs and win tomorrow's war. Suzanne Vaughan, a DOTD Instructional System Specialist explains, "We want the force to tell us what they need so the training developers can take that and make it happen" (personal communication with S. Vaughan, August 2, 2022).

The process begins with a job analysis. Data that are collected from email/internet surveys, interviews, and site visits in conjunction with current observations, lessons learned, and best practices from the operational force are currently the best methods used to collect information about job tasks. The DOTD submits job analysis surveys to the field approximately 120 days prior to the board and remain open for 60 days. This is the field's opportunity to shape the critical tasks for board review. The voting members of the board may discuss conditions and standards of the actual task and how it might relate or be modified for training; however, training developers assigned to DOTD are responsible to identify equipment required, performance steps and measures, performance evaluation methods, and safety considerations for MOSs and areas of concentration, including ASIs and special qualification identifiers.

Ninety days prior to board execution, DOTD sends all designated board members the following information in a consolidated email list:

- The CTSSB welcome letter;
- Board standard operating procedures;
- The Difficulty-Importance-Frequency, or DIF, model;
- Job analysis survey results;
- Task analysis documents;
- Blank CTSSB task non-concurrence memo; and
- Link to CTSSB process video.

The CTSSB lasts about 1 week. The process is streamlined by members completing pre-board tasks and sharing products securely via milSuite, SharePoint, or Microsoft Teams prior to coming to the board. These requirements reduce the overall expense and time personnel will be on-site for the board. Once all the members have reported for the board, they receive a brief covering expectations, ground rules, and an overview of the complete process. Over the 5 days that the board is convened, the team will work together to identify the information they have reviewed prior to coming and discuss recommended changes to the ICTL. When all tasks have been voted on and the recorder has captured all information in the minutes, there will be an after-action review. All documents remain at DOTD, which completes the changes and submits the new ICTL to the DOTD Director for approval.

> "We want the force to tell us what they need so the training developers can take that and make it happen"
>
> — Suzanne Vaughan, DOTD Instructional System Specialist

The CTSSB is comprised of the chairman, training and education developers, subject matter experts (SMEs), evaluators, reserve component representatives, a recorder, and non-participation observers. These individuals come together for the board to discuss the ICTL required to successfully accomplish one's missions and duties, as well as survive in the full range of military operations.

**The chairman** will be selected no later than 90 days from the date the board is to convene. They are a non-voting member unless there is a tie-breaking vote required. The chairman's responsibilities include convening the individual board, ensuring adequate active and reserve representation, selecting approximately five to seven SMEs to serve as board members, leading the discussions on ICTL selection, and advising the board on procedural matters.

**The training and education developers** are non-voting members who advise the board on education and training matters including analysis, task and critical task definitions, task performance data, and the task selection model.

**The SMEs** are the voting members composed of Active and Reserve component personnel from U.S. Army Forces Command, U.S. Army Reserve, and the Army National Guard. Their responsibilities include recommending changes to the total task inventory, providing technical information and advice to the board, determining how critical each task is based on the task selection model, making initial recommendations on where to teach each task, and the frequency of instruction.

**The evaluator** is a non-voting member who is responsible for the quality assurance of the board, which ensures that the tasks are recommended as critical/non-critical based on an approximate task selection model and certifying the task title meets the regulation requirements.

**The reserve component representatives** function as SMEs and ensure that the reserve component requirements are included in the decisions.

**The recorder** is a non-voting member who takes accurate notes on all decisions. Concerns are annotated in the board minutes.

**The non-participation observers** are non-voting members who may observe the board.

The Army's peacetime mission is to prepare for war, and a large part of that preparation is training.

Our Soldiers are our greatest assets and deserve the best training available. The Army uses tried and proven processes such as CTSSBs to ensure its Soldiers are receiving the most relevant training to be successful in combat.

The CTSSB Schedule for Fiscal Year 2023–2025 is provided in the Table. For further information on the CTSSB, please reference Army Training and Doctrine Command Pamphlet 350-70-14 (Department of the Army, 2021).

The DOTD Training Branch is also available and willing to help with any CTSSB questions. Point of contact James (Bo) Thurman, DOTD Training Division Chief, may be reached at james.r.thurman.civ@army.mil.

**_Table_. CTSSB Schedule, Fiscal Year 2023–2025**[2]

| Name | Abr. | Last Board | Next Board | Location |
|---|---|---|---|---|
| Armament/Electrical/Avionic Systems Repairer | 15Y | Nov 2018 | 6-10 Feb 2023 | Ft. Eustis, Va. |
| AH-64 Attack Helicopter Repairer | 15R | Jun 2019 | 13-17 Mar 2023 | Ft. Eustis, Va. |
| Aircraft Pneudraulics Repairer | 15H | Jul 2019 | 18-22 Mar 2023 | Ft. Eustis, Va. |
| Aircraft Powertrain Repairer | 15D | Feb 2019 | 13-17 May 2023 | Ft. Eustis, Va. |
| Aviation Maintenance Tech Warrant Officer Advanced Course (WOAC) | 151A WOAC | Nov 2017 | 15-19 May 2023 | Ft. Eustis, Va. |
| MQ1 UAS Repairer | 15M | N/A | 22-26 May 2023 | Ft. Rucker, Al. |
| Aviation Maintenance Officer | AMO | May 2021 | 13-17 Nov 2023 | Ft. Rucker, Al. |
| Non-Rated Crew Member | NRCM | Nov 2020 | 12-14 Mar 2024 | Teleconference |
| Apache Pilot | AH-64 | Jun 2020 | 9-11 Apr 2024 | Teleconference |
| Air Traffic and Airspace Management Technician | 150A | Jun 2020 | 6-10 May 2024 | Teleconference |
| Aircraft Powertrain Repairer | 15B | Apr 2019 | 13-17 May 2024 | Ft. Eustis, Va. |
| RQ7 UAS Operator | 15W | Jun 2021 | 10-14 Jun 2024 | Ft. Rucker, Al. |
| Aviation Master Gunner | AMG | Nov 2021 | Jul 2024 | Ft. Rucker, Al. |
| Army Avionic Mechanic | 15N | Feb 2000 | 22-26 Jul 2024 | Ft. Eustis, Va. |
| MQ1 UAS Operator | 15C | Jun 2021 | 9-13 Sep 2024 | Ft. Rucker, Al. |
| Aviation Maintenance Technician - Warrant Officer COURSE (WOBC) | 151A WOBC | May 2021 | 10-14 Mar 2025 | Ft. Eustis, Va. |
| Army CH-47 Helicopter Repairer | 15U | Jun 2022 | 9-13 Jun 2025 | Ft. Eustis, Va. |
| Army UH-60 Helicopter Repairer | 15T | Jul 2021 | 14-18 Jul 2025 | Ft. Eustis, Va. |
| Aircraft Electrician | 15F | Sep 2021 | 15-19 Sep 2025 | Ft. Eustis, Va. |

[2]This Table displays the Fiscal Year 2023-2025 internal schedules based off 3-year cycle for CTSSBs—these timelines may adjust based off unpredicted workload requirements. Please contact the DOTD Training Division POC for further information.

Biographies:

CSM Frederick Jordan is the Brigade Command Sergeant Major for U.S. Army Forces Command.

The DOTD Training Division mission is to develop Army Aviation training in support of Aviation Operations supporting large-scale combat operations by overseeing the development of educational products through the ADDIE (analysis, design, development, implementation, and evaluation) process.

Ms. Suzanne Vaughan is an Instructional Systems Specialist with 38 years of civilian service. She was a training developer with the SCUBA, FreeFall, and Joint Special Operations Medical courses at the JFK Special Warfare Center & School, Fort Bragg, North Carolina. After moving to the Army Aviation Center of Excellence, Ms. Vaughan was the Chief of Staff & Faculty, as well as primary instructor of the Training Developers Course. She is currently working in the DOTD Doctrine and Tactics Division, Fort Rucker, Alabama.

Reference:

Department of the Army. (2021, April 15). *Training and educational development in support of the institutional domain* (TRADOC Pamphlet 350-70-14). Training and Doctrine Command. https://adminpubs.tradoc.army.mil/pamphlets/TP350-70-14.pdf

# COMBINED ARMS TRAINING STRATEGY PROGRAM FOR ARMY AVIATION

A U.S. Army AH-64D Apache from the 1-151st Attack Reconnaissance Battalion, South Carolina National Guard, prepares for takeoff from Naval Air Station Jacksonville, Florida, as part of an integrated live-fire exercise with the U.S. Navy George H.W. Bush Carrier Strike Group. U.S. Army National Guard photo by CPT Jamie Delk.

**By Mr. Eric S. Peckham**

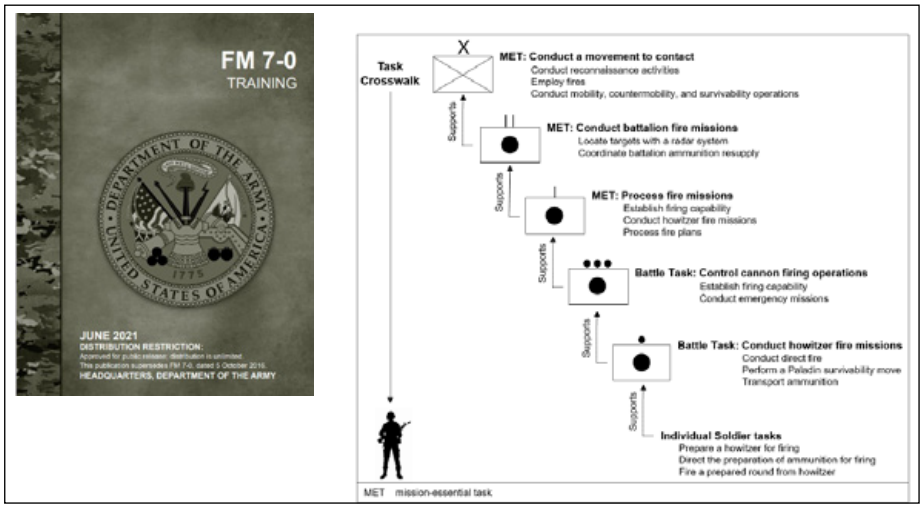



*Figure 1*. Example concept of a task crosswalk found in FM 7-0 (Department of the Army [DA], 2021a, p. B-2).

Aviation Combined Arms Training Strategies (CATS)[1] are proponent-approved training products that continue to evolve by supporting company through brigade commanders in developing their unit training plan (UTP). Recent updates to CATS include adding events to support training gunnery (for individual, crew-served, and platform weapon qualification), adding events to support training individual warrior tasks, and adding battle drills and tasks to events supporting the mission-essential task (MET) crosswalk process found in Field Manual (FM) 7-0, "Training" (Department of the Army [DA], 2021a) (Figure 1).

Combined Arms Training is the Army's overarching strategy for training the force. Each strategy is reviewed annually and provides commanders the most up-to-date information on unit task lists (UTLs) and METs; personnel and equipment; training aids, devices, simulators, and simulations (TADSS); live-fire qualification tables; and Department of the Army Pamphlet (DA PAM) 350-38, "Standard in Weapons Training" Standards in Training Commission (STRAC)[2] resourcing (DA, 2021b).

The CATS program can be used by commanders to build a UTP and training calendar that can be holistic or mission-essential task list-(METL) focused. The METL-focused CATS only displays the task sets (TSs) that are MET related. Active and reserve component commanders are provided a 2-year (Active) or 5-year (Reserve) training calendar that can be used and modified by commanders in the Army's Digital Training Management System (DTMS) based on an assessment of unit and task proficiency, operational tempo, resourcing, and which phase the unit may be in under the Regionally Aligned Readiness and Modernization Model (ReARMM) cycle.[3]

Each CATS contains a descriptive task-based training plan that provides "a way" to build and sustain unit readiness. Strategies are built around a unit's design mission, capabilities, and functions that are regularly reviewed for changes. This year, a change separated the attack from reconnaissance in AH-64 Apache units. There are already

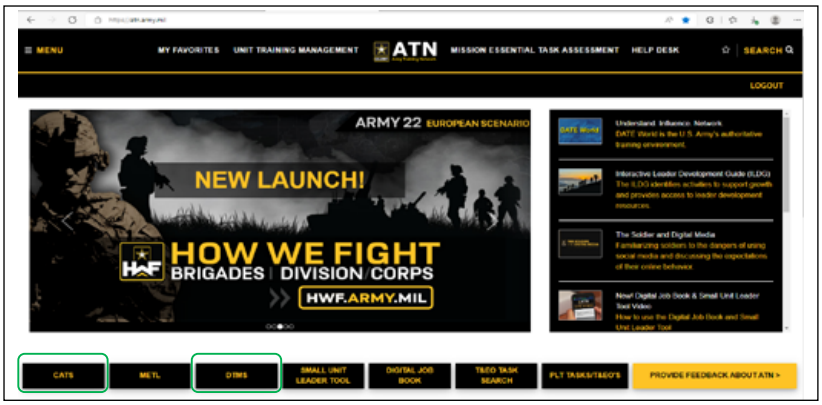



*Figure 2*. The ATN portal allows CAC users quick access to CATS and DTMS.

[1]CATS are available on the Enterprise Access Management Service-Army (EAMS-A) to users with a valid CAC.

[2]Standards in Weapons Training (STRAC) strategies are the basis for determining training ammunition requirements and for providing units the information necessary to forecast training ammunition (E. Peckham, personal communication, August 17, 2022).

[3]ReARMM is "a flexible, predictable force generation process that will create an Army that is regionally and functionally capable of supporting the Nation's Defense Strategy." Headquarters, Deputy Chief of Staff, G-3-5-7. (2020, October 16). *Regionally aligned readiness and modernization model*. U.S. Army STAND-TO! https://www.army.mil/standto/archive/2020/10/16/#:~:text=What%20is%20it%3F%20Regionally%20Aligned%20Readiness%20and%20Modernization,capable%20of%20supporting%20the%20Nation%E-2%80%99s%20Defense%20Strategy%20%28NDS%29



Back to Table of Contents

CATS in place to support these new battalions and companies, as well as reconnaissance squadrons and troops.

Common access cardholders can access CATS using the Army Training Network (ATN) portal or DTMS (Figure 2).

Searches for specific CATS are commonly performed using a table of organization and equipment (TOE) number but may also use proponent, unit title, or unit identification code (UIC) (Figure 3).

There are two methods for viewing CATS information. Figure 4 shows the CATS landing page and using generated reports where users can open and save six different generated reports (Figure 5).

The reports include:

- The CATS executive summary, which provides a brief introduction to CATS and how it was developed;
- The CATS report, the largest of all the reports, contains information from all the TSs, capstone training events (CTE), and UTL;
- The MET to TS crosswalk report shows the unit's METs and the TSs used to train them;
- The TADSS report shows all the CATS events, recommended iterations and durations, TADSS, and ranges and facilities that support each event;
- The TS report provides an overarching description, capabilities and functions trained, training guidance, and a description of the three types of tasks used in CATS;

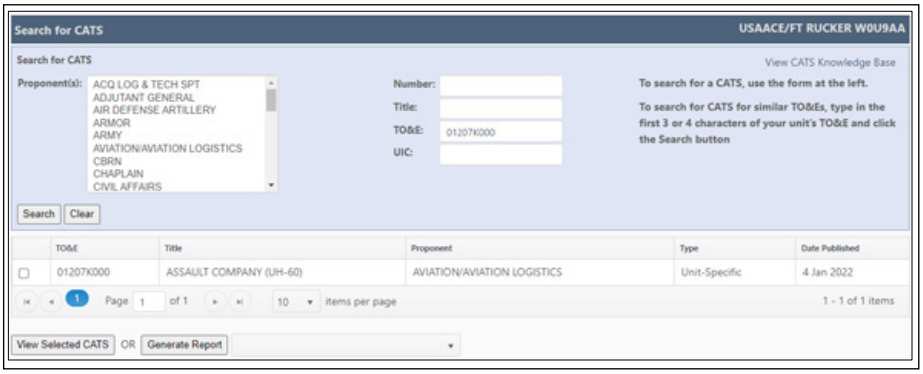



*Figure 3.* After accessing CATS through the ATN portal, users can search for a specific CATS using proponent, unit title, TOE number, or UIC.

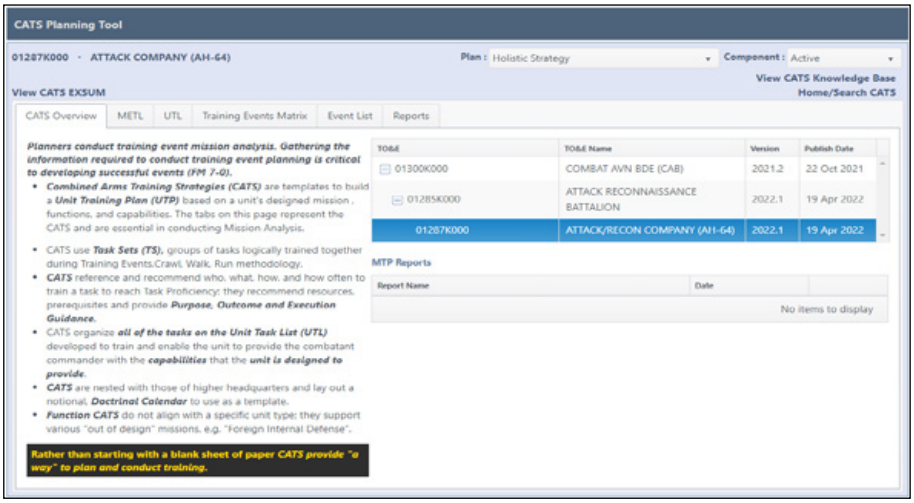



*Figure 4.* The CATS landing page provides a CATS overview and gives access to the unit's METL, UTL, reports, and access to other CATS in the unit's hierarchy.

- And finally, the training event matrix shows how many times a TS (using its recommended events) is trained throughout a calendar year.

When viewing a CATS, users can review the UTL. There are digital links attached to each task number that will pull up the task's training and evaluation outline (T&EO) (Figure 6). Combined Arms Training Strategy analysts use the UTL to create TSs that focus training on a grouping of tasks that logically train together. These TSs provide a base strategy—using the crawl-walk-run training methodology—to assist the commander in driving the training management cycle, develop a long-range training plan, and develop a training calendar.

Tasks sets are the core of each CATS and provide a description of the MET, capability or function it trains, and overarching training guidance. There are common TSs found in each CATS (e.g., command and control; force protection; chemical, biological, radiological, and nuclear; communications; establish a unit area; and deployment) but also contain unique TSs for training METs. Some collective tasks will be found in multiple TSs due to their importance in all training (e.g., risk management and troop leading procedures).

Each TS lists recommended tasks to train, the warfighting function it supports, events (e.g., class, situational

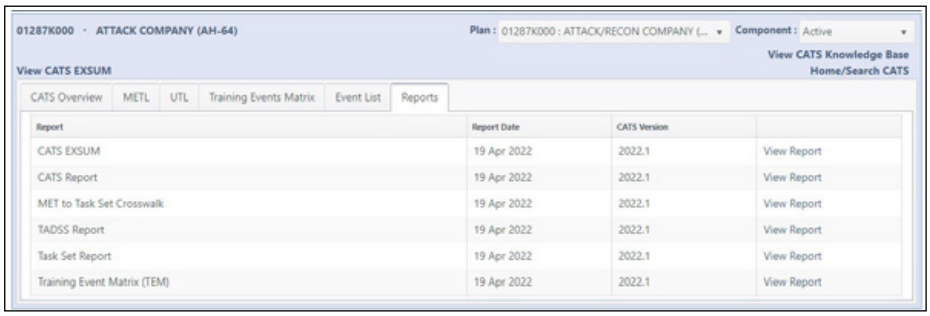



*Figure 5.* The six different reports available for each CATS. The report date shows the date of publication.

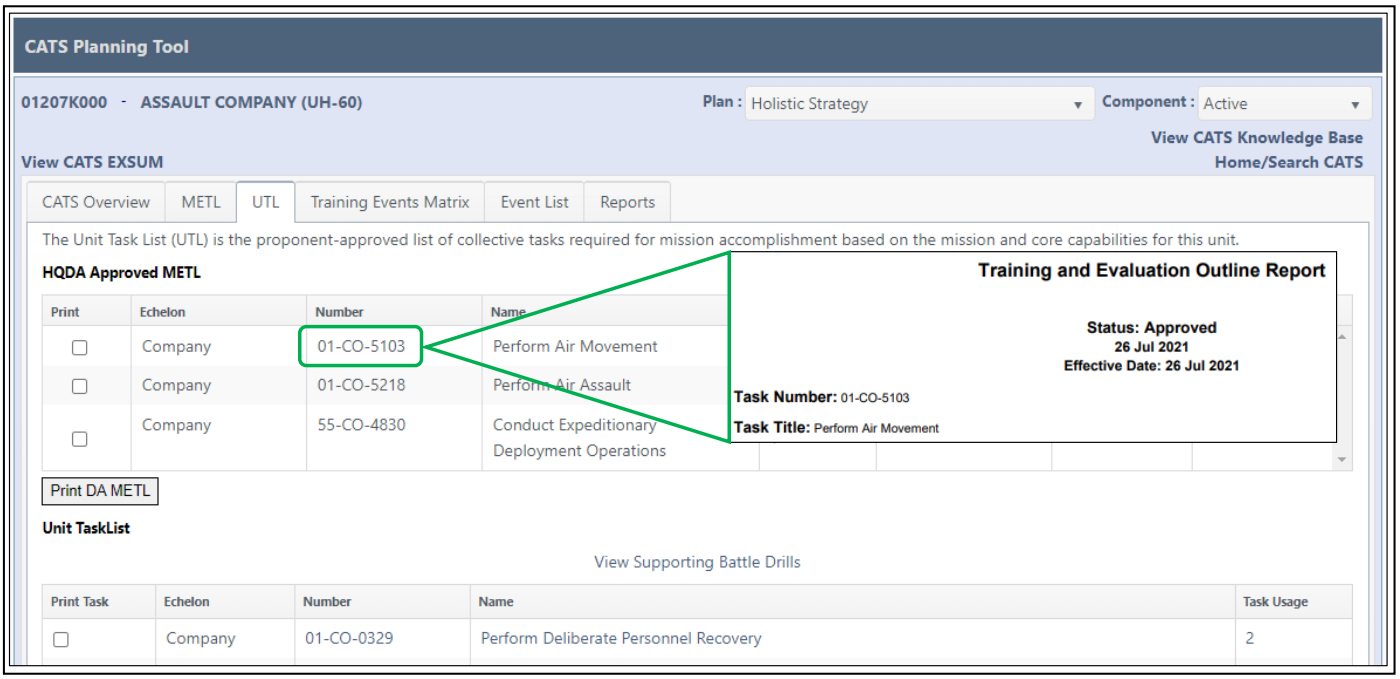



*Figure 6*. The UTL view of an assault company (UH-60). Clicking on any task number within a CATS using ATN or DTMS will open the task's T&EO.

training exercise [STX], field training exercise), event iterations and durations, condition (i.e., crawl-walk-run), domains (i.e., live, virtual, constructive), and training audience. In addition, training gates, facilities and ranges, and resources (e.g., equipment, fuel, ammunition, and pyrotechnics) are recommended. Each event contains purpose, outcome, and execution guidance, giving the commander additional information for consideration during event planning and execution (e.g., scenario design, drills, and non task-related training) (Figure 7).

For example, using an attack helicopter company (AH-64) TOE 01287K000, the commander wants to conduct training on MET 01-CO-5179, *Conduct Aerial Deliberate Attack Missions*, and the TS supporting the MET is 01-TS-2806, *Plan and Conduct Aerial Attack Operations*. The TS contains three recommended events: class, team training, and STX. Having assessed the unit as "practiced" and at walk-level condition, the commander reviews the TS and identifies supporting tasks to train from the recommended list. He sees that the

An AH-64 Apache helicopter flies by U.S. Soldiers assigned to the 1st Squadron, 2ɒ Cavalry Regiment, during gunnery training in Grafenwoehr Training Area, Germany. The gunnery training concluded with the squadron's table VIII and IX live-fire certifications. U.S. Army photo by SGT LaShic Patterson.



Back to Table of Contents

class event is not necessary, based on unit proficiency. The TS also recommends the following: prerequisite command and control training; virtual use of the Aviation Combined Arms Tactical Trainer; participation of the battalion staff for product development; integration of aviation liaison personnel; and direct coordination with a supported unit for detailed mission planning, integration, and synchronization; and the inclusion of unmanned aircraft systems for manned-unmanned teaming.

In this example, some readers may have noticed that CATS has already incorporated this year's change to AH-64 units with the separation of attack from reconnaissance at the battalion, squadron, company, and troop echelons previously mentioned.

Each CATS contains TSs for weapon qualification from individual through platform live fire with events for each gunnery table. Using the same attack helicopter company, their CATS contains TSs for the following: pistol, carbine, automatic rifle, grenade launcher, and AH-64 helicopter. Task set 01-TS-2338, *Conduct Aerial Live Fire (AH-64)*, contains team, platoon, and company-level collective tasks for *Conduct Aerial Attack Missions* and seven events (four live fire, and three STXs) that assist in the training of the 12 AH-64 gunnery tables in Training Circular 3-04.3, "Aviation Gunnery." In addition, all live-fire events provide STRAC-allocated ammunition types and quantities units can use when planning and requesting resources.

U.S. Army National Guard Soldiers conduct a forward arming and refueling point at McEntire Joint National Guard Base, South Carolina, in support of a live-fire exercise at Poinsett Range. U.S. Army National Guard photo by SPC David Erskine, South Carolina National Guard.

Training conditions (crawl-walk-run) are built into every TS and used when CATS analysts build the training calendar to properly sequence training events. Using DTMS, the commander can import the long-range plan of events and modify them. The commander may delete or duplicate events and move them to different days/months based on an assessment of unit and task proficiency, time, and resourcing. Some of the events are CTEs that are not included in TSs. They are culminating training events used to sustain and validate run-level task proficiency, have larger resourcing requirements, and may be used to externally evaluate the unit on MET proficiency.

Combined Arms Training Strategy has its own Knowledge Base found on ATN under the Unit Training Management section. There are briefings that include an introduction to CATS and program overview (including purpose), relationship to Army training doctrine, key inputs and structure of the strategies, mechanics of the program, fundamental concepts of TS and events, and delivery tools. There are videos on how to access CATS using DTMS, training cycles (green, amber, red), METL and calendar tools, and more. The CATS Knowledge Base allows units to request CATS-related instruction or assistance, gives them access to other related resources

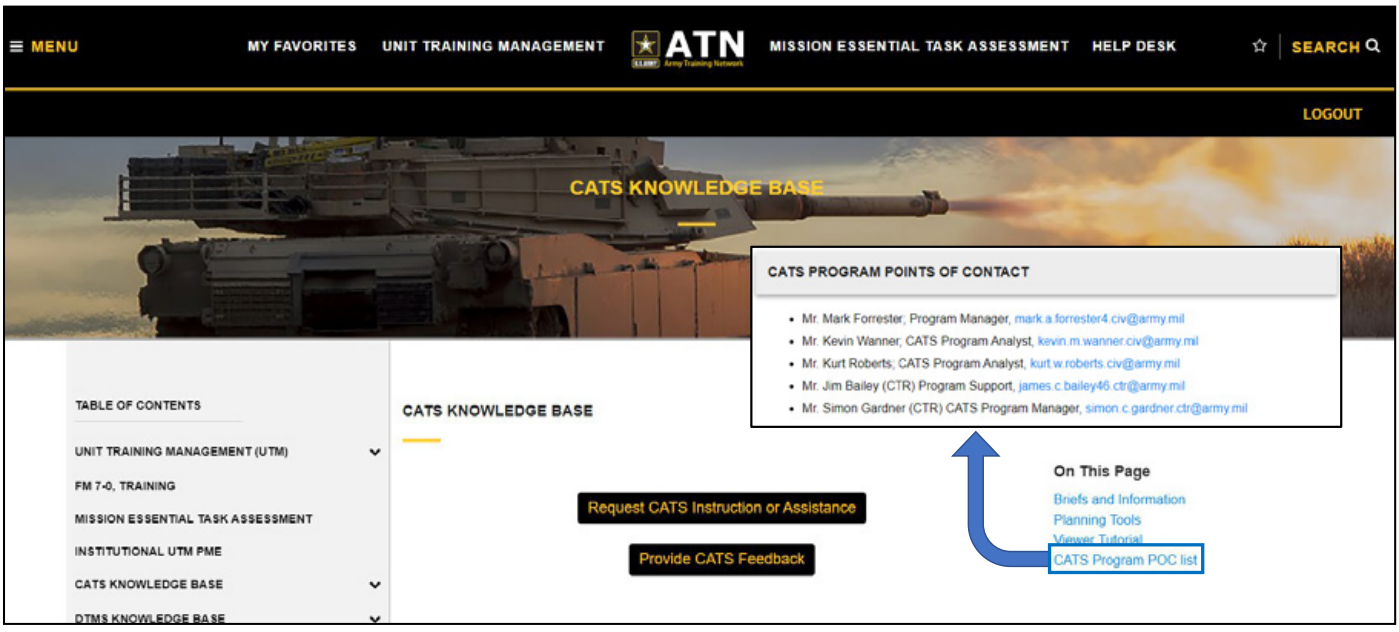
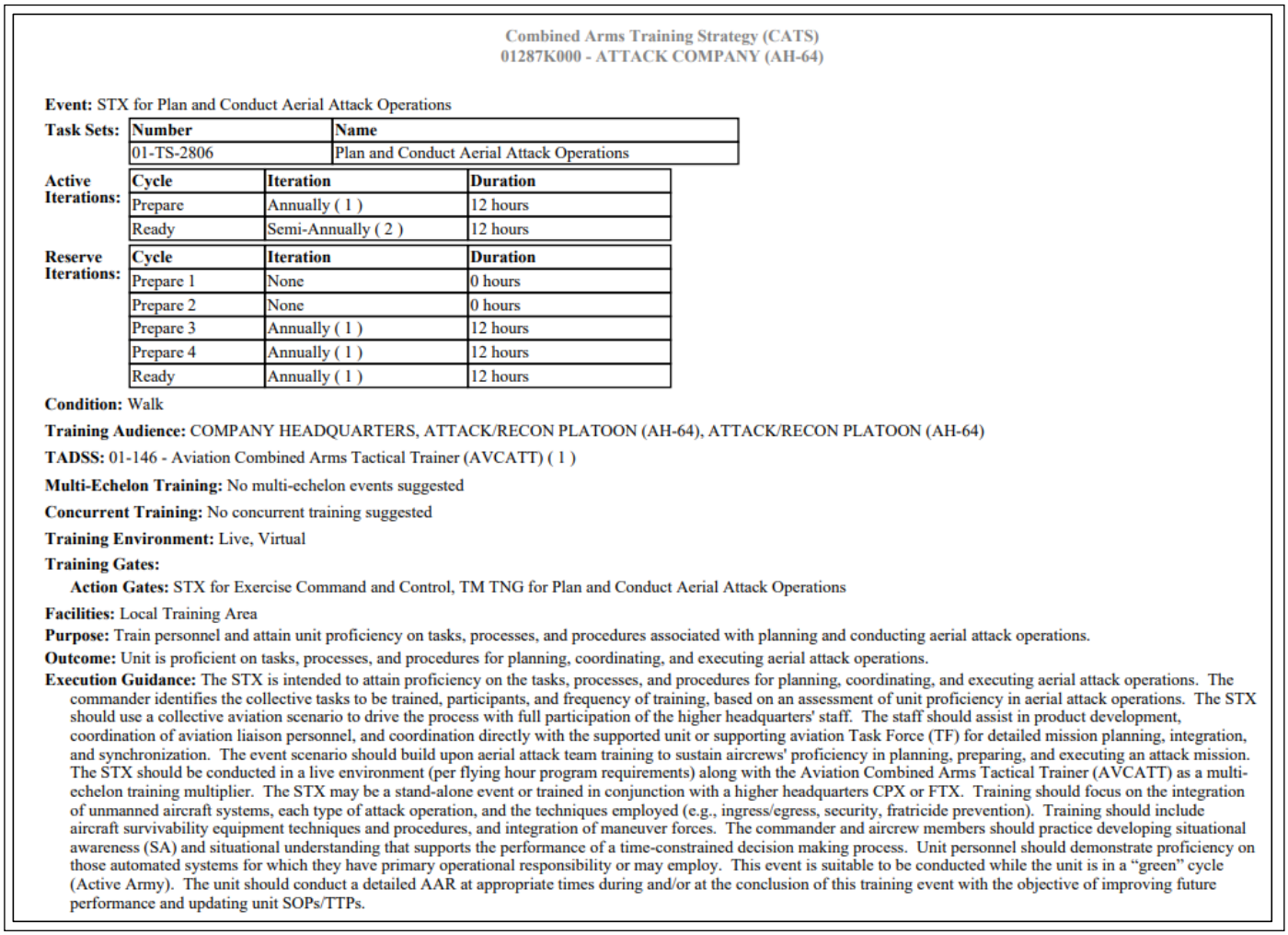



*Figure 7.* Portions of the attack company (AH-64) STX event found in the Plan and Conduct Attack Operations TS.



Combined Arms Training Strategy (CATS)
01287K000 - ATTACK COMPANY (AH-64)

**Event:** STX for Plan and Conduct Aerial Attack Operations

**Task Sets:**

| Number | Name |
|---|---|
| 01-TS-2806 | Plan and Conduct Aerial Attack Operations |

**Active Iterations:**

| Cycle | Iteration | Duration |
|---|---|---|
| Prepare | Annually ( 1 ) | 12 hours |
| Ready | Semi-Annually ( 2 ) | 12 hours |

**Reserve Iterations:**

| Cycle | Iteration | Duration |
|---|---|---|
| Prepare 1 | None | 0 hours |
| Prepare 2 | None | 0 hours |
| Prepare 3 | Annually ( 1 ) | 12 hours |
| Prepare 4 | Annually ( 1 ) | 12 hours |
| Ready | Annually ( 1 ) | 12 hours |

**Condition:** Walk

**Training Audience:** COMPANY HEADQUARTERS, ATTACK/RECON PLATOON (AH-64), ATTACK/RECON PLATOON (AH-64)

**TADSS:** 01-146 - Aviation Combined Arms Tactical Trainer (AVCATT) ( 1 )

**Multi-Echelon Training:** No multi-echelon events suggested

**Concurrent Training:** No concurrent training suggested

**Training Environment:** Live, Virtual

**Training Gates:**

**Action Gates:** STX for Exercise Command and Control, TM TNG for Plan and Conduct Aerial Attack Operations

**Facilities:** Local Training Area

**Purpose:** Train personnel and attain unit proficiency on tasks, processes, and procedures associated with planning and conducting aerial attack operations.

**Outcome:** Unit is proficient on tasks, processes, and procedures for planning, coordinating, and executing aerial attack operations.

**Execution Guidance:** The STX is intended to attain proficiency on the tasks, processes, and procedures for planning, coordinating, and executing aerial attack operations. The commander identifies the collective tasks to be trained, participants, and frequency of training, based on an assessment of unit proficiency in aerial attack operations. The STX should use a collective aviation scenario to drive the process with full participation of the higher headquarters' staff. The staff should assist in product development, coordination of aviation liaison personnel, and coordination directly with the supported unit or supporting aviation Task Force (TF) for detailed mission planning, integration, and synchronization. The event scenario should build upon aerial attack team training to sustain aircrews' proficiency in planning, preparing, and executing an attack mission. The STX should be conducted in a live environment (per flying hour program requirements) along with the Aviation Combined Arms Tactical Trainer (AVCATT) as a multi-echelon training multiplier. The STX may be a stand-alone event or trained in conjunction with a higher headquarters CPX or FTX. Training should focus on the integration of unmanned aircraft systems, each type of attack operation, and the techniques employed (e.g., ingress/egress, security, fratricide prevention). Training should include aircraft survivability equipment techniques and procedures, and integration of maneuver forces. The commander and aircrew members should practice developing situational awareness (SA) and situational understanding that supports the performance of a time-constrained decision making process. Unit personnel should demonstrate proficiency on those automated systems for which they have primary operational responsibility or may employ. This event is suitable to be conducted while the unit is in a "green" cycle (Active Army). The unit should conduct a detailed AAR at appropriate times during and/or at the conclusion of this training event with the objective of improving future performance and updating unit SOPs/TTPs.

*Figure 8.* Screenshot of the CATS Knowledge Base page found on ATN.

(tools), and provides points of contact (Figure 8).

Combined Arms Training Strategy analysts also provide direct support to the unit training management mobile training team. The mobile training team can be requested by units (battalion and above) through ATN to provide training on the Army Training Management System (ATN, CATS, and DTMS) with practical exercises focused on enabling unit commanders to effectively plan METL-based training for their unit. Additionally, the exercises will assist the unit commander in creating effective training guidance and building the units' long-range training plan in accordance with FM 7-0 and address other training-related issues requested by the unit.

The Aviation Proponent's CATS team conducts regular briefings with other Aviation Directorate of Training and Doctrine branches (e.g., Tactics, Doctrine, Gunnery) and outside agencies (e.g., Combined Arms Center-Training, Organization, and Personnel Force Development) on topics such as training the command and control warfighting function, ReARMM, and proposed changes to Aviation Gunnery and STRAC allocations to ensure CATS products continue to remain current and relevant for Army Aviation use.

Biography:

Mr. Eric S. Peckham serves as a Training Specialist (CATS), Doctrine and Tactics Division, Directorate of Training and Doctrine, and was a senior military analyst contractor. Mr. Peckham is a retired SGM with 30 years of military service in Army Aviation maintenance. Eric spent more than 15 years with the 82D Airborne Division and has deployed to Iraq in support of Operation Iraqi Freedom and to Afghanistan in support of Operation Enduring Freedom.

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# Observations, Insights, and Lessons Learned: Unmanned Aircraft System Battalions

Idaho Army National Guard hosts drone class students. Students were provided opportunities to fly drones, examine equipment, and talk with people who are actively engaged in drone technology and their use in the business world. U.S. Army photo by Thomas Alvarez, Idaho Army National Guard.

**By CPT Marvin E. Lewis**

Current doctrine describes manned-unmanned Teaming (MUM-T) as, "the integrated maneuver of Army Aviation RW [rotary wing] and UAS [unmanned aircraft system] to conduct movement to contact, attack, reconnaissance, and security tasks" (Department of the Army [DA], 2020, Glossary-5). Too frequently, this idea puts UASs into a box where they are simply "Apache support," rather than a full-fledged maneuver asset. Instead of being treated like scouts, RQ-7 Shadow operators are tacitly led to believe that the most useful ability they have is to lase a target for scout weapons teams (SWTs). This idea implied in our understanding of MUM-T hinders the creativity and ingenuity of both leadership and the UAS operators themselves in a way that stifles critical thinking and decision making. This problem is even worse for RQ-7 operators in brigade combat teams (BCTs). Shadow platoons are often relegated as an afterthought by the brigade aviation element and more times than not, these platoons are reliant on the air cavalry squadrons (ACS) for sustainment and runway usage. In order to correct this trend, we should update how UASs are viewed within both ACS and divisions. Instead of subordinating them to the lowest level, both Shadow and MQ-1C Gray Eagle assets should be consolidated into a single, independent squadron owned by the combat aviation brigade (CAB) and managed in support of the division fight. Currently, a division is organized with six platoons of Shadows and a company of Gray Eagles. By consolidating these UAS assets into a single squadron, units will achieve better resource management, better training, and better scale for a large-scale combat operations (LSCO) fight.

Ukraine's current conflict with Russia displays how effective dedicated UAS elements can be in a LSCO environment. Unmanned aircraft system units, referred to as Aerorozvidka units, are making significant impact against large formations. Originally comprised of a group of information technology and drone enthusiasts, these formations quickly became a key component of Ukrainian defense. In late March 2022 and under the cover of night, the "group of elite Ukrainian drone units and some 30 Ukrainian special forces" conducted a stealthy reconnaissance of a 40-mile-long Russian convoy (SOFREP, 2022). They then used their drones to identify high-value targets within the convoy, provided accurate locations of the vehicles within urban terrain, and coordinated with artillery call for fire and ground force strikes to defeat the Russian advance (SOFREP, 2022). The independence Ukrainian leaders provided this unit allowed them to make significant impact at a theater level. Though not completely in line with current U.S. theory for MUM-T employment, treating the UAS as an autonomous, maneuverable entity was the critical difference enabling the Aerorozvidka's success. We would do well to take note and adjust our own doctrine accordingly.

The most obvious benefit of consolidating UAS assets is that those assets will take advantage of improved economies of scale regarding maintenance and the more efficient use of our materiel assets. In the current model, three Shadow platoons across the ACS and an additional three platoons across the division means that any transfer of property is an exchange at best, between primary hand receipts and at worst, between brigade as a proposed sourcing decision. Instead of a quick walk next door, exchange of a key radio, antennae, or tool required to maintain and repair the technologically complex ground control stations, launchers, and aerial vehicles takes days or weeks instead of a few minutes. Furthermore, the expertise required to maintain and operate these vehicles is widely dispersed, making cross-level training and sharing of best maintenance practices unnecessarily cumbersome.

Consolidation of UASs into a single squadron would also have the benefit of improving leader development among operators and enhancing training opportunities for Soldiers. One of the biggest arguments against removing Shadows from the ACS troop is that it will hinder integration between manned and unmanned assets. If Shadows are viewed only as tools for Apache pilots to use for expanding their operational reach, then this is a valid argument; however, this mindset vastly undervalues the potential that UASs bring to the CAB commander as a reconnaissance platform. In the current structure, troop commanders are expected to become subject matter experts of a system they may have never interacted with or been formally trained on,

while also maintaining proficiency in the tactical employment of manned systems. This requirement extends to squadron commanders, staff, and in the BCT, the brigade aviation officer. These organizations are expected to know how to resource, train, and integrate a unit that is not inherently theirs. It's no wonder then that aviation-centric organizations focused on maintaining and employing multimillion-dollar helicopters place the Shadow as a secondary line of effort. By making command of a UAS unit an O-5 billet with a fully fleshed out staff focused only on UAS operations, leaders can create an environment that emphasizes these assets as a primary line of support. This elevates the expectations placed upon them. Now instead of "one more thing" for commanders to consider in a position already overwhelmed with additional tasks and expectations, the true potential of UAS can be brought to bear. These units will foster officers who are subject matter experts on drone operations. Manned-unmanned teaming will no longer be another tactical box to check but a fully developed maneuver unit with its own mission-essential tasks, collective tasks, and doctrine. Furthermore, consolidation of these assets will improve command and control functions. In the current model, UASs are usually dislocated from RW mission command nodes. This is because of their requirement of a dedicated runway for recovery operations. While the rest of the squadron usually sets up the main command post in a location more advantageous for RW operations, the UAS platoon is typically geographically separated by multiple kilometers due to landing constraints. The tyranny of distance makes command of Shadow assets more difficult than necessary. This issue could be resolved by providing UASs with their own planning and command nodes in closer vicinity to the runway or airstrip.

Finally, reorganizing UASs will spur the improvement of current doctrine by better scaling use of existing assets for a LSCO fight. Until recently, the core aviation attack and reconnaissance unit was the attack weapons team (AWT) and SWT used in conjunction with a single UAS to conduct MUM-T. The shift to LSCO necessitates leaders to plan at higher echelons in order to mass combat power against larger formations. Rather than fighting as individual teams, future fights will feature platoons and companies as the core units of tactical execution. Brigade staffs will be expected to take on greater responsibility in mission planning. Divisions will be the actioning maneuver force. By leaving UAS mission planning to a platoon of skilled, but less robustly resourced drone operators, current doctrine ignores this effect of scaling. Unmanned aircraft systems will need to be deployed as platoons and companies to answer brigade and division priority intelligence requirements. With the CAB taking on a more significant role in planning, CAB commanders will need access to a more robust set of reconnaissance assets to make informed decisions. Providing them with a dedicated UAS squadron answers this need. Manned-unmanned teaming will still occur, but it will be at echelon where reconnaissance management, through cueing, can control assets across a much larger and more complex battlefield. Current doctrine neglects this idea. All examples of MUM-T employment in Field Manual 3-04, "Army Aviation," (2020) revolve around integration with AWT/SWT. While scaling *is* hinted at, the manual never describes how that would be done. This point is made even more evident that while the earlier versions of Army Techniques Publication 3-04.1, "Aviation Tactical Employment," include an entire appendix of MUM-T employment methods, the active version provides only a short table and forgoes any discussion on large-scale employment of UASs.[1] A fully evolved staff of UAS trained planners will make better informed decisions and will likely develop novel ideas to overcome arising challenges. These ideas can perhaps eventually be codified into doctrine. Leaving our best operators decentralized at the platoon level would make this process much slower and more difficult to achieve.

SPC Raymond Weaver launches the senseFly eBee X Drone during training at Schofield Barracks, Hawaii. U.S. Army photo by SSG Alan Brutus.

Unmanned aircraft system platoons in their current state are effective but limited in their scope. These limitations are the result of lack of creativity in how we view their role as scouts. By providing greater autonomy and fostering an environment where they are used as the primary line of support, it is likely that they have the potential to be a much greater asset to friendly forces. They possess the potential and provide CAB and division commanders the flexibility and reconnaissance capability needed to fight and win at much higher echelons than we have employed in the previous 2 decades. As fights advance and new techniques arise, we as a branch can choose to adapt or hold on to our old ideas and theories and suffer the consequences.

Biography:

CPT Marvin E. Lewis serves as an aviation officer (15B). Previous assignments include the 6-17 ACS (Fort Carson, Colorado) as a platoon leader, AS3, and S4. He currently serves as troop commander of C/4-6 ACS (Joint Base Lewis-McChord, Washington). His overseas tours include Operation Atlantic Resolve (Greece) and Operation Freedom Sentinel (Afghanistan).

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[1]This document is available through the Enterprise Access Management Service-Army with a valid common access card.

# Forward Arming and Refueling Point Survivability in the Near-Peer Fight:

## Creating Smaller, Mobile, and Adaptable Fuel Support Nodes in a Large-Scale Combat Operations Environment

Soldiers with Company E, 2D General Support Aviation Battalion, 227th Aviation Regiment, 1st Air Cavalry Brigade (ACB), 1st Cavalry Division (Renegades) perform a hot refuel on a two CH-47 Chinook helicopters from B/2-227th Aviation Regiment (Black Cats) during a situational training exercise at Fort Hood, Texas, July 1, 2021. U.S. Army photo by CPL Marlina Corbin, 1st ACB.

**By CPT Edward A. Garibay and CPT Dana K. Spinks**

On Thursday, February 24, 2022, a force of nearly 190,000 Russians massed on the Ukrainian border and invaded the soil of a sovereign land. In the days, weeks, and months to follow, the world watched the first true instance of modern-day large-scale combat operations (LSCO) unfold.

Videos and images of low-flying helicopters, shoulder-fired rocketry, and pops of chaffs and flares against a dusk-filled sky gave the aviation community tangible feedback on LSCO concepts only talked about in theory. But perhaps the most notable visualizations were that of burning airfields and stockpiles of fuel reserves designed to last months; yet, destroyed in an instant. The slow ember of flames atop vehicles parked perfectly in line confirmed a suspicion that military aviators had for some time: Current forward arming and refueling point (FARP) practices of stockpiled resources are inadequate, immobile, and place a giant target on aviation and sustainment assets.

Forward arming and refueling points need to be smaller, more mobile, and more adaptable to disperse assets across the battlefield and avoid being a stationary target. To meet the need, the 2D General Support Aviation Battalion (GSAB), 227th Aviation Regiment, 1st ACB, 1st Cavalry Division, developed a concept called **FARP Assembly Areas (FAA)** to increase survivability and help bridge the gap into modern warfare.

## History of the FARP Problem

Forward arming and refueling points are a critical necessity of the aviation community; yet, their tactics remain outdated in counterinsurgency (COIN) practices.

For more than 20 years in the COIN environment, the American Armed Forces enjoyed air superiority, which enabled Army Aviation to maintain influence over the battlespace in an unprecedented way. The network of forward operating bases (FOBs) that defined the operational environment allowed aviation to fly with the confidence that refuel would be safe and available wherever and whenever required, missions were conducted within range of hardstand refueling points, and FARPs never left the security of the FOB. At the end of the day, Army Aviation could depend on a mass of city-sized arsenals in nations across the world that were reliable but stationary.

With the sunset of U.S. COIN operations in the Middle East, aviation units must be prepared to fly further into the battlespace, often beyond the forward line of own troops (FLOT) to conduct missions in contested airspace. In LSCO, any forward progress on the battlefield will require an entrance into enemy controlled territory. Aviation operations must operate beyond the FLOT to shape the fight for the ground force commander. To utilize Army Aviation in the deep fight, FARPs need to be sent out further to provide increased station time and decreased reaction time to enhance the lethality of aviation operations.

Multiple articles over the past year have sent a call to arms for the current aviation forward support company's (FSC) equipment and authorizations to adapt and become more flexible and mobile to prepare for a near-peer threat. Unfortunately, those problems of tomorrow have become problems of today, and the Army can no longer wait. Simply put, FARPs need to be smaller, more mobile, and hyperflexible to adapt to a dynamic and lethal battlefield. More importantly, units need to find a solution, and they need to build survivable FARPs with what they have now.

## The Solution: FARP Assembly Areas

For the 2D GSAB, 227th Aviation Regiment, 1st ACB, 1st Cavalry Division (known as Task Force Lobos), waiting was not an option. The unit deployed in support of Operation Atlantic Resolve just months before the invasion and was postured along the European Eastern Front to deter any adversary from crossing into the North Atlantic Treaty Organization, or NATO, territory. With the Lobos aviation forces stretched from the heights of Latvia, through the borderlands of Poland, and down to the shores of Romania, the threat was very real and very urgent.

Fortunately, the battalion had prepared long before the first Lobo Trooper's boot hit ground in the U.S. European Command (EUCOM) November 2021.

"The writing was on the wall," said MAJ Chaz Allen, former executive officer and interim commander for Task Force Lobos. "There was a good chance we'd look back and say we were just overreacting, but I would rather be prepared and give a sigh of relief than be caught off guard" (C. Allen, personal communication, December 2021).

Multiple warfighter command post exercises, field problems, and a rigorous yearlong LSCO FARP training progression led to the development of the FAA concept, which provides survivability, mobility, and flexibility, while extending the range of FARP operations.

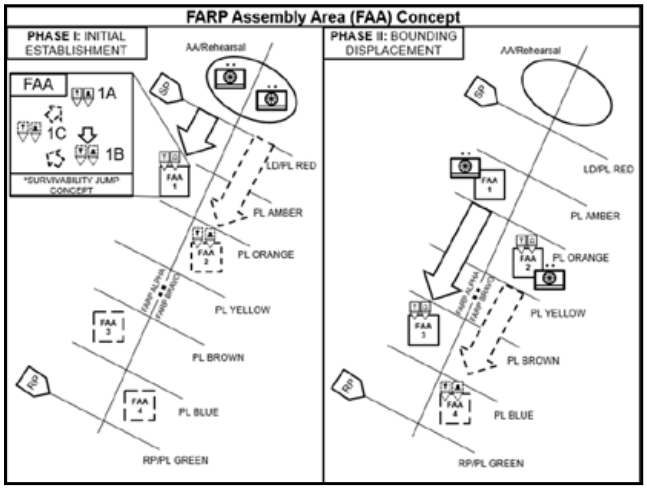
The concept answers the question: How do FARPs rapidly extend operational reach into the deep fight while mitigating risk against enemy long-range artillery or bypassed enemy forces?

At its most basic form, the FAA concept is a mixture of "buddy rushes"—a movement under fire technique where a pair of Soldiers bound toward an objective while ensuring one is always stationary and providing cover fire while the other moves—and an artillery concept known as position areas for artillery—a series of predesignated areas on the battlefield where artillery systems can frequently maneuver within to increase survivability and avoid counterfire.

Under the FAA concept, FARP packages are deployed in buddy pairs and bound to predetermined FAAs as the battle progresses, while always making sure one FARP is always active. Once inside an FAA, fuel assets can reposition as necessary to increase survivability. Forward arming and refueling points stay out indefinitely to increase response time, and each FAA is several kilometers in size.

After aviation assets refuel at the first fueling point, the FARP element conducts a survivability move to another preplanned position. The second FARP point is then available while the first is in transit. When all refuel points are used or jump criteria are met, the FAA breaks down and jumps to a new FAA. This allows FARPs to move with the battle, provide rearm/refuel closer to the FLOT for deep operations, and always have assets available (Graphic 1).

Finally, each FARP has two to four points and can support ammunition and fuel resupply. Since they are




*Graphic 1.* Forward arming and refueling point Phases I and II.[1] Graphic created by Army CPT Edward A. Garibay, E/2-227th Renegades.

[1] Phase I: FARP Alpha jumps to FAA 1 and establishes as the active FARP. Forward Arming and Refueling Point Bravo displaces to FAA 2 as the silent FARP. As necessary, FARPs may displace within their respective FAA to increase survivability.
Phase II: As the FLOT progresses, FARP Bravo becomes active to allow FARP Alpha to jump to FAA 3. Once FARP Alpha re-establishes, it becomes the active FARP and allows FARP Bravo to bound to FAA 4.



Back to Table of Contents

positioned far forward, a robust and redundant resupply plan is required to keep FARPs topped off. Forward arming and refueling points should have established resupply relationships with their FSC, the distribution company of the aviation support battalion, the division sustainment support battalion for throughput resupply, and neighboring maneuver units. Ideally, FARPs would be embedded with a ground maneuver unit's area of operation to not only provide resupply options but also provide additional protection.

## Planning for FAAs

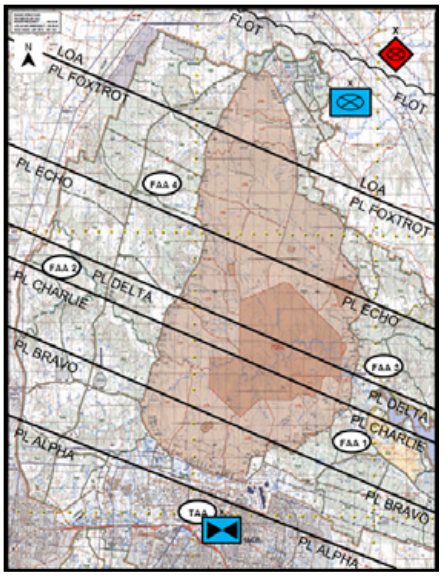
While FAAs are simple in theory, planning for them takes significant analysis to adhere to the principles of survivability, mobility, flexibility, and operational reach (Graphic 2).

**Survivability**. The necessity of FAAs was born from the need to be survivable. Forward arming and refueling point assembly areas allow FARPs to move freely and remain survivable, while still confining them to a specified area required by the mission. However, to prevent unnecessary jumps and potential confusion, it is important to determine what criteria would create a need for a FARP to jump (Figure 1). Units need to ask themselves questions based off mission, enemy, terrain, troops, time, civil considerations such as:

- How many aircraft can go through a FARP before it becomes compromised?
- How long should a FARP stay in one area?
- What level of enemy threat creates too much risk?

**Mobility**. The buddy system creates significant mobility for FARPs. At times, a FARP can become pigeonholed to a certain location because it is the only jump FARP sent out to support a mission. With the buddy rush system—while one is in place to support the mission—the other has full freedom of maneuver. Mobility can be significantly increased by deploying a multitude of FARPs across the battlefield; however, it does come at the risk of asset management. When considering FARP mobility, it is important to:

- Create event triggers to signal a FARP's transition from one FAA to another.
- Mitigate risk by dispersing as many FARPs as possible across multiple FAAs.




*Graphic 2.* A rough conceptualization of FAA planning. Graphic created by Army CPT Edward A. Garibay, E/2-227th Renegades.

*Figure 1.* Soldiers with the E/2-227th Renegades perform a hot refuel on Apache helicopters from Troop A, 7th Battalion, 17th Air Cavalry Squadron (Nightmares) during Allied Spirit 22 at the Hohenfels Training Area, Germany, January 2022. U.S. Army photo by SSG A.J. Dydasco, 7th Army Training Command.

- Create contingencies in the event of disabled or destroyed FARPs.

**Flexibility**. One of the biggest benefits to the FAA concept is it provides options for commanders at brigade and below. During the military decision-making process, the staff must pre-plot as many FAAs and survivability jump sites as possible. This provides options for leaders to select the most suitable FARP placement to support a mission, while also considering locations of both friendlies and enemies. Doing so creates flexibility in a highly lethal, fast-paced environment and should be paired with the following considerations:

- Utilize mensurated imagery to find as many FARP site options as possible.
- Establish multiple corridors of responsibility and assign FARPs to operate within them.
- Establish a standard and simple naming convention for FAAs (e.g., FAAs assigned numbers one through 10; survivability jump sites assigned letters A through H; an example FARP location: FAA 3B).

*Figure 2.* SPC Shawn Tucker, Petroleum Supply Specialist with the Renegades refuels a Black Hawk helicopter from A/2-227th Aviation Regiment (Vultures), while SGT Diana Reyes, Petroleum Supply Noncommissioned officer (NCO) with the Renegades performs fire guard during a situational training exercise at Fort Hood, Texas, July 1, 2021. U.S. Army photo credited to CPL Marlina Corbin, 1st ACB.

**Operational Reach**. Typically, jump FARPs are launched for specific missions and return upon conclusion. This standard practice severely limits how far and how quickly FARPs can be established. By leaving FARPs out indefinitely, aviation assets always have the option to launch beyond a single bag of gas or a single basic load of ammunition and can be placed out at further distances. However, the more distant the FARP, the more forecasting is required for resupply. Units should consider the following when determining how far from the tactical assembly area (TAA) a FARP should be established:

- **Length of time for resupply**. Since Army airframes have between 150 to 200 nautical miles of reach, FARPs could be placed anywhere from several kilometers to over 100 miles apart, depending on the operational need (Boeing, 2022). Units need to ensure resupply is practical.

- **Location of other sustainment units to assist in resupply** (division sustainment support battalion, brigade support battalions, etc.). These assets can provide alternative resupply options and provide a lifeline to forward FARPs.

- **The enemy threat**. There is distinct risk-reward payoff to placing FARPs closer to the FLOT. Although FAAs are built for survivability, the proximity to the FLOT is strictly based on the amount of risk leaders are willing to accept to meet mission requirements.

## Training for the Next Generation of Aviation Support

As Task Force Lobos prepared to deploy to the Eastern European Border in 2021 with a looming threat of adversarial aggression, they created a squad-based FARP crew certification program much like gunnery crews. Because of how dispersed they would be, they had to develop junior NCOs to take on new diverse roles necessary to lead FARPs far forward of any other leadership element.

"We need to empower our NCO Corps," said Army LTC John B. DeLoach, commander of Task Force Lobos. "Ye' who has the best sergeants wins—every time—and I've got the best NCOs this Army has to offer" (J. DeLoach, personal communication, March 2022).

Squads and equipment were aligned to create FARP crews that underwent training to increase the proficiency necessary to execute the FAA concept. Because of the responsibility level they

would hold, squad leaders were given the title of FARP commander and trained in a crawl-walk-run methodology focusing on crew progression, FARP defense techniques, and adaptability. The result allowed the Lobos to fully execute FAAs in LSCO, should the need arise. Throughout their training, they developed the following lessons learned:

**Crew Progression**. Building a strong, well-trained FARP crew is the crux of the FAA concept. Crew progression starts with Leaders Time Training (LTT) to develop the basics of aviation refuel. Progression continues through a series of increasingly complex drills, situational training exercises, and field training exercises (FTXs) culminating in squads bounding to FAAs while rearming/refueling aircraft and defending against near-peer threats. In addition to FARP defense, which is discussed later, the following are key areas of emphasis in FARP crew certification:

- Develop a progression that focuses on mobility and incorporates day/night operations, as well as enemy threats. The progression should not only build cohesive teams but should certify the FARP commander to execute all required tasks to accomplish the mission.

- Forward arming and refueling point commanders need to be experts in convoy planning and execution. This includes route planning, battle drills, use of tow bars/straps, and expeditionary repair.

- Communications training is key. Forward arming and refueling points will be far forward from the TAA and will need to communicate to flight operations utilizing over-the-horizon communication systems, as well as talk to inbound aircraft utilizing line-of-sight communication systems. Forward arming and refueling point commanders will need to be well trained on standards of reporting to effectively communicate the FARP's location, hot/cold status, logistics status, and request for resupply.

- Train for the elements. Forward arming and refueling point crews need to be able to survive in the most austere conditions—the cold, the wet, and the desert—while still being mobile and discreet. This comes down to training in prolonged periods of austerity, having the right equipment, and making sure it works (Figures 3 and 4).

**FARP Defense**. Base defense is an often-cited shortfall in the Army Aviation community. This holds especially true for FARPs. Despite the high demand for FARP security augmentation, the availability of external

*Figure 3.* Troopers with the Renegades conduct FARP defense during Allied Spirit 22 at the Hohenfels Training Area, Germany, January 2022. U.S. Army photo by SSG A.J. Dydasco, 7th Army Training Command.

*Figure 4.* Troopers with the Renegades drive an M978 Heavy Expanded Mobility Tactical Truck (HEMTT) Fuel Tanker in a snowstorm during Allied Spirit 22 at the Hohenfels Training Area, Germany, January 2022. U.S. Army photo by SSG A.J. Dydasco, 7th Army Training Command.

*Figure 5.* (From left to right) SPC Taquan Jones, Petroleum Supply Specialist; 1LT Tatianna Blake, Distribution Platoon Leader; and CSM Richard D. Wright, Battalion Senior Enlisted Advisor, all with Company A/2-227th Aviation Regiment (Vultures), refuel a HH-60M medical evacuation Black Hawk during Exercise Swift Response, Pepelishte, North Macedonia, May 12, 2022. U.S. Army photo credited to CPT Edward Garibay, E/2-227th Renegades.

protection assets is habitually in short supply. Oftentimes, there simply are none. Because of this, units should not train with "notional security." Forward arming and refueling point personnel need to be trained to protect themselves and survive (Figure 5). The lessons learned are:

- Train on ways to conceal, suppress, and escape. Forward arming and refueling point defense should not be focused on holding ground; it needs to follow the SERE—Survive, Evade, Resist, Escape—principles more closely. Forward arming and refueling point protection plans need to be focused on evading detection through camouflage and terrain rather than displaying a grand show of force. As soon as threats emerge, FARP assets need to be trained to break contact as soon as possible so they can relocate and reestablish for continued support to aircraft.

- Build lethality on crew-served weapons through convoy protection platform gunnery and convoy live fire. Manpower is always limited, and the crews available need to be lethal and well trained. In additional to personnel limitation, units must also overcome equipment shortfalls to maintain lethality. For instance, the GSAB FSC only has a limited amount of gun trucks. For challenges like this, units should order ring mounts above the modified table of organization and equipment (MTOE) and sign an operational needs statement to retain them and create more gun trucks.

- Fighter management is perhaps the most difficult challenge to FARP defensibility. With limited personnel, 24-hour operations, and an overwhelming number of tasks, FARP crews will be stretched to their absolute. Units need to test crew rest cycles through prolonged FTX to identify limitations and ways to mitigate exhaustion.

**Adaptability.** Uncertainty is one of the key characteristics in LSCO. Forward arming and refueling points should be prepared to adapt to a multitude of changing variables and have leaders with the critical thinking skills necessary to overcome the odds. To train for this preparation, units should:

- Train and rehearse a variety of FARP site configurations to adapt to terrain and enemy. Crews should be able to quickly reconfigure from a two-point to a four-point FARP, utilize 'T' and 'Y' fittings, and be able to improvise in the moment.

- Prepare FARP crews for the worst. Order running spares to replace damaged or destroyed equipment. In addition to standard wear and tear, FARPs should be ready to react to the mass-casualty producing nature of LSCO. Units should practice deploying quick reaction force FARPs to replace fuel and ammunition assets destroyed in combat.

- Be able to certify FARPs in any condition. In LSCO, it is impractical to have the aviation safety officer certify every FARP. All pilots-in-command (PCs) need to have regular refresher training on FARP certification. In emergency situations where time is of the essence, FARP commanders should also be trained and authorized to certify a FARP.

**Composition.** The composition of the FARP crew is dependent on the current manning and equipment availability of the FSC. However, it is a careful tradeoff. If it is too big, the FARP will suck up too many resources, be harder to defend, be slower to move, and present a much larger target. If the FARP is too small, it will lack critical capabilities in resupply, maintenance, or defense. Finding the right balance can be difficult because current equipment and personnel authorizations are built more for COIN operations than LSCO. The Lobos found the following characteristics allowed for small, maneuverable FARPs that still had significant resupply capability:

- A two-point FARP utilizing M978 HEMTT Fuel Trucks will allow for greater fighter management during 24-hour operations and could flex up to a four-point for short durations, if required by mission.

- Convoy protection platforms with ammunition-hauling capabilities to reduce footprint size.

- A maintenance contact truck to provide on-the-spot quick fixes for fuel trucks on the move.

Ultimately, training for LSCO operations comes down to building strong squads and squad leaders capable of making the right call in difficult conditions. Squad leaders are the most critical element of FARPs in a LSCO. Units will be placing the most vulnerable and essential aviation enabler, the FARP, in the hands of a junior NCO—potentially hundreds of miles away from any other leadership—and will expect them to make decisions that can have a direct and immediate impact on division and corps combat operations.

According to GEN Michael X. Garrett, former CG of U.S. Army Forces Command, "Regardless of the location or mission, the Soldiers in our crews, squads, and platoons will be the first to make contact with the enemy, and it is at that point they must decisively prevail. I believe that you can have the best strategy in the world, but if you can't win at the point of contact, you can't win–period" (Garrett, 2020).

This training is much more than just an FSC effort though, it takes battalion and brigade commitment. In addition to well-rehearsed crews on the ground, it also takes well-rehearsed synchronization in the air and in the operations cell. This is because increased survivability and mobility also increases complexity. Planners, air mission commanders, and FARP commanders must have a shared understanding of where fuel assets are on the battlefield at any given time, what alternatives or contingencies are in place, and what the displacement triggers are.

*Figure 6.* PFC Janelle Nuqui, Petroleum Supply Specialist assigned to the Renegades, performs a hot refuel on a Black Hawk operated by B/3-227th Assault Helicopter Battalion, 1st ACB, 1st Cavalry Division at a FARP during Exercise Swift Response, Pepelishte, North Macedonia, May 12, 2022. U.S. Army photo by SGT Jason Greaves, 1st ACB.

An excellent opportunity to evaluate this training technique is during aerial gunnery, where a tactical scenario and live ammunition can be incorporated with joint planning from both aviators and sustainers. Aviators should provide the when, where, and why. Sustainers should provide the who, how, and resupply strategy.

## The Way Forward

For the Lobos, their training prepared them to support fast-paced, flexible aviation operations in Europe during critically uncertain times. They outflew every past rotational aviation force with more flight hours and more gallons of fuel dispensed; they conducted multiple Combat Training Center rotations at the Joint Multinational Readiness Center and trained mixed-multiship operations with Allied Nations at training exercises across the Continent; most of all, they rapidly deployed small, mobile, and survivable FARPs in support of deterrence operations and projected aviation forces to answer the call when and where the Nation asked (Figure 6).

Overall, they created "a way" that addresses a few of the many challenges in LSCO. As aviation tactics continue to evolve, so too must the ground units that support them. Changes in unit MTOE, advancements in expeditionary equipment, and development of new LSCO doctrine are all a must. And although these changes have already begun, units need to be prepared to fight and win in LSCO with what they have on hand now. The FAA concept is but a stepping stone. Units must continue to adapt, experiment, and evolve, because the future of Army Aviation sustainment is still on the horizon.

Biographies:

CPT Edward A. Garibay is the FSC Commander for E/2-227th Aviation Regiment, 1st ACB, 1st Cavalry Division and deployed to Poland in support of the European Deterrence Initiative. He has three master's degrees from Syracuse University in international relations, public relations, and military studies. He has deployed to Afghanistan, Kuwait, and previous Atlantic Resolve EUCOM rotations.

CPT Dana K. Spinks is a UH-60L/M PC of the Command Aviation Company A/2-227th Aviation Regiment, 1st ACB, 1st Cavalry Division and deployed to Poland in support of the European Deterrence Initiative. She previously served in the Brigade Operations Cell for the 1st ACB. She is a graduate of Seton Hall University.

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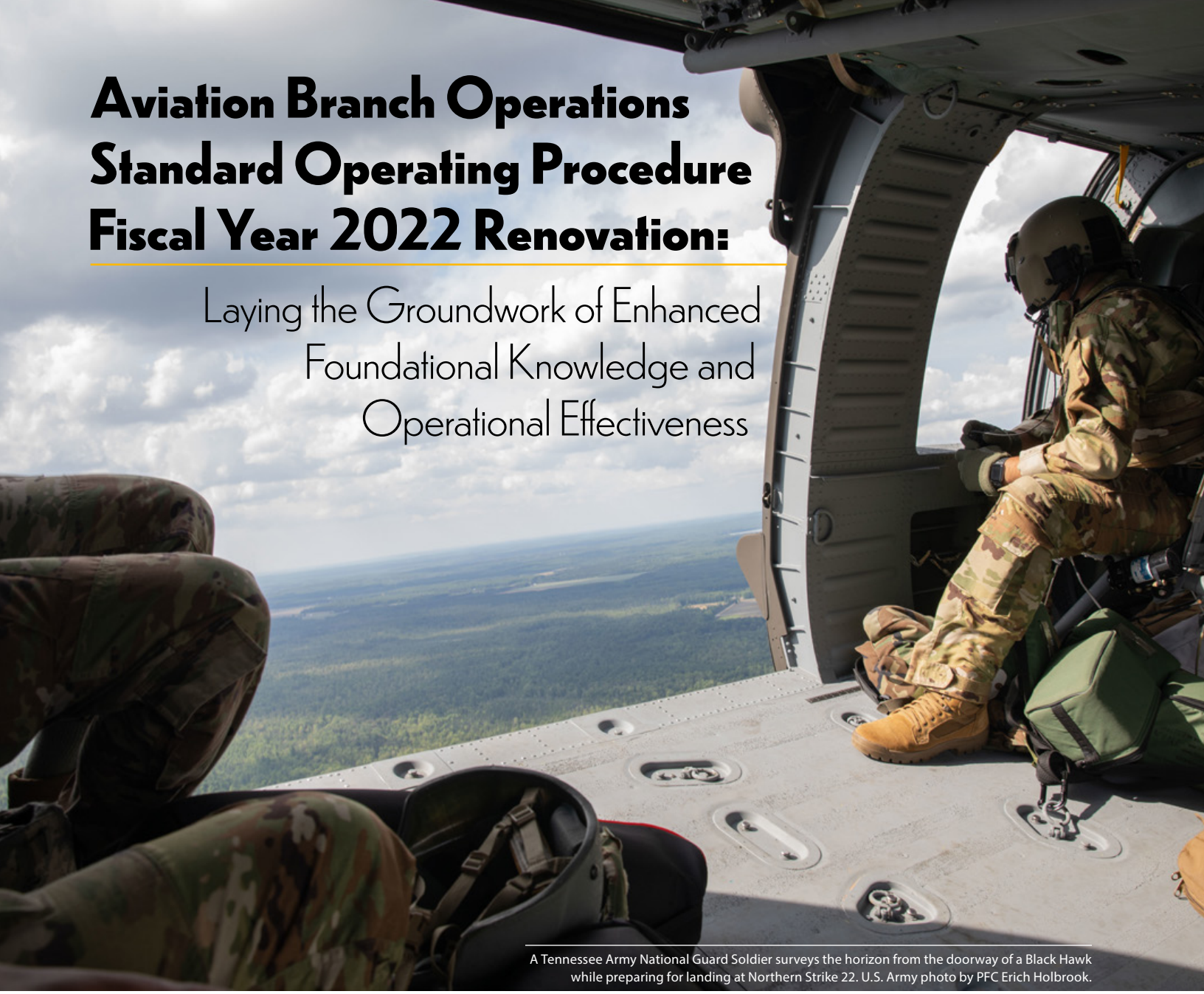
# Aviation Branch Operations Standard Operating Procedure Fiscal Year 2022 Renovation:

## Laying the Groundwork of Enhanced Foundational Knowledge and Operational Effectiveness



A Tennessee Army National Guard Soldier surveys the horizon from the doorway of a Black Hawk while preparing for landing at Northern Strike 22. U.S. Army photo by PFC Erich Holbrook.

**By CPT Ashley Hendrickson Howard**

As we enter a new era of Army Aviation transitioning to the Aviation Branch of Army 2030, prepared to fight and win against the pacing threat of China while remaining ready to meet the urgent challenge of Russia, establishing a firm doctrinal basis upon which to execute is ever more imperative. Over the years, external frictions and the demand for rapid change has not made doctrinal mastery, let alone proficiency, easy for Aviation Soldiers. The well-intentioned movement to "defrag the hard-drive" resulted in an Aviation Branch Operations standard operating procedure (SOP) that was longer than most doctrinal and training publications it sought to consolidate into a single, easily referenced digest of Aviation information. The lesson learned: If it's too long, Soldiers simply won't read it and units find it impossible to enforce. In the initiative to arm the Aviation Enterprise with doctrine vital to Army 2030 implementation, we are entering an era filled with required change—starting right here with Army and Aviation doctrine.

With the gross amount of change involved, a one-stop document to visit every doctrinal publication is simply no longer a feasible goal to meet with the manpower struggle we are experiencing across the force. Instead, the foundation of a true SOP must be re-established to allow Soldiers the clear, concise guidance backed by the firm reference to doctrine easily accessible in our digital age. This will guarantee the flexibility to grow at the rate large-scale combat operations (LSCO) and multi-domain operations (MDO) will demand. Here, understanding the difference in definition between Army doctrine and SOPs proves helpful.

"For the Army we define *Army doctrine* as 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. It is authoritative but requires judgment in application. Army doctrine is the approved (by the Secretary of the Army through the Administrative Assistant to the Secretary of the Army) body of knowledge that is taught and used for the conduct of operations" (Department of the Army, 2019, p. 1-2).

While grounded in enduring principles, doctrine is flexible, adaptable, and changing—forever evolving to meet the creative demands of leaders to fight and win our nation's wars. Though designed to change, doctrinal change is a deliberate process, intentionally set for review on a 3- to 5-year cycle to avoid the chaos and intense learning demand that occurs with rapid or drastic change. An SOP, on the other hand, is "a set of instructions applicable to those features of operations that lend themselves to a definite or standardized procedure without loss of effectiveness" (Chairman of the Joint Chiefs of Staff, 2010, p. 235; Department of the Army, 2021a; Chairman of the Joint Chiefs of Staff, 2021a). Additionally, Army Regulation 25-30 further restricts SOPs to established or changed policy or issued procedures that apply within an agency or command (Department of the Army, 2021b, p. 17). The added benefits of SOPs are in their ability to apply pinpoint-specific guidance without any revision cycle restrictions; commanders may implement changes to their SOPs any time the need presents itself.

In layman's terms: Doctrine is the toolbox consolidated and shaped by the hands of experience, trial and error, and lessons learned over long periods of time to provide leaders the benefit of executing the mission rather than consistently learning the basics. Standard operating procedures are unit-specific operational and colloquial guidelines established by commands at any time to reduce friction in meeting specified mission requirements. In a February 2022 U.S. Special Operations Command podcast, USSOCOM Commander, GEN Richard D. Clarke stated, "We must train our Soldiers to the known and our leaders to the unknown" (Smith & Parrish, 2022)—but first, we must supply them with the doctrine and operational capabilities to meet the unknown and still guarantee mission success.

While the changes to doctrine undergo lengthy revision and review processes, the Fiscal Year 2022 revision of the Aviation Branch Operations SOP is the initial drive toward implementing a universal foundation of operations across the Aviation Enterprise, upon which each state and aviation brigade can build its area of operations and mission-set specific SOPs and guidelines to adequately mitigate their unique levels of risk in the implementation of LSCO- and MDO-oriented training plans. Specific changes are discussed in the following paragraphs; however, the most significant and notable change incorporated into this revision is the establishment of a basic source document that now applies to every Army Aviator, beginning with day 1 of flight school. This document will follow them throughout their career with only nuanced changes to learn upon arrival to each new unit. Additionally, this branch-wide SOP foundation serves as the consolidated database to measure those long-term lessons learned and procedures that need to be incorporated into future doctrine updates.

## Aviation Branch Operations SOP Changes

As a whole, the new Aviation Branch SOP was a major revision from the previous version. The page number count decreased from 209 to 80 (a reduction of 53,858 words). The main goals of the revision reduced the amount of redundant information, listed source doctrine, and addressed errors, while providing a consistent foundation to the Enterprise during a period of transition. The SOP is available on the Doctrine Branch's SharePoint site with a valid common access card at: https://intranet.tradoc.army.mil/sites/usaacedotd/DoctrineDivision/DoctrineBranch


A Tennessee Army National Guard Soldier runs to his Black Hawk during the Pre-accident Plan Rehearsal for Northern Strike 22. U.S. Army photo by PFC Erich Holbrook.

## Deleted information:

- Duplicate information found in cited publications and Annex A of the Aviation Branch Operations SOP (the Aviation Handbook)
- Aircrew information reading file contents–reader referred to Training Circular 3-04.11, "Commander's Aviation Training and Standardization Program," (Department of the Army, 2022)
- Incorrect mission design series limitations (i.e., UH-60 seats-out operations)

## Added information:

- Four pages of glossary information
- Referenced website links and updated reference documents
- Note for local procedures guide to address platform or local unique considerations
- Corrected flight information publication procedures
- Remark referring readers to the current aeromedical policy letter for changing Army Technique Publications regarding new Department of Defense Form 2992, "Medical Recommendation for Flying or Special Operational Duty" (Department of Defense, 2015)
- Updated maintenance test flight crew requirements for the UH-60 and CH-47
- Updated no-notice procedures
- Option for informal counseling in lieu of designation board for first-time pilots-in-command and air mission commanders
- Flight Engineer program
- Aircraft Commander program
- Corrected self-briefing statement, reference to Army Regulation 95-1 for Mission Briefing Officers (MBOs) (Department of the Army, 2018a)
- Corrected MBO checklist

Helocast operations during Northern Strike at Camp Grayling, Michigan. U.S. Army photo by CPT Joe Legros.

- Guidance regarding National Guard and Reserve components' (COMPOs) COMPO 2 and 3 local area orientation (LAO) checklists
- Corrected aircrew training topics table
- Updated fighter management definitions
- Corrected tactical vs. terrain flight altitudes
- Corrected forward area rearm/refuel point personnel uniform statement and reference to Army Techniques Publication 3-04.17, "Techniques for Forward Arming and Refueling Points" (2018b)
- Remain overnight considerations
- References to deck landing qualification/shipboard operations
- References for rappelling and paradrop operations
- Refined hazards of electromagnetic to ordnance flight procedures
- Medical evacuation (MEDEVAC) operations: duties for MEDEVAC personnel, use of First and Second up, 25-hour duty day considerations, and risk management procedure considerations
- Unmanned aircraft systems: considerations for mission planning, execution, and abort criteria
- Unmanned aircraft systems: critical skill incentive pay information

## Annex A—Aviation Handbook:

This entire annex was revised to meet electronic flight bag needs and standardized Army doctrine formatting requirements. Additionally, all included information was updated in accordance with current Army doctrine and concentrated tactical feedback requests from all Active Duty, National Guard, and Reserve COMPOs. The main goal of this revision was to create a quick-reference guide document fit for the digital era to assist from mission planning through mission execution. All kneeboard documents will be available fully editable on the U.S. Army Aviation Center of Excellence (USAACE) Directorate of Training and Doctrine's (DOTD) Doctrine and Tactics Division (DTAC)—Doctrine Branch SharePoint site.

## Annex B—Brigade Aviation Element (BAE)/Liaison Officer (LNO) Handbook:

This annex is a brand-new addition in the SOP revision. It is designed to fill the gap created by the rescission of Training Circular 3-04.22, "Brigade Aviation Elements,"[1] and the lack of consolidated guidance for Army Aviation LNOs until the doctrine is revised to backfill these requirements. This SOP includes basic duties and responsibilities for BAE personnel and Aviation LNOs, as well as planning guidance, checklists, and asset tracking documents to serve throughout the duration of the tour.

## Annex C—Army Aviation Risk–Common Operating Picture v1.1.0:

Though this is not an entirely new document, the USAACE-approved Army Aviation Risk–Common Operating Picture, or RCOP, will officially serve as Annex C upon publication and approval of the Fiscal Year 2022 revision of the Army Branch Operations SOP. Version 1.1.0 has been updated for current Microsoft software capabilities and will be released to the Enterprise

[1]This document is currently rescinded. The DOTD DTAC-Doctrine Branch is in the process of conducting a quick review to republish it early in Fiscal Year 2023. You may request a copy by emailing the USAACE, DOTD, DTAC Doctrine Branch at: usarmy.rucker.avncoe.mbx.doctrine-branch@mail.mil



Back to Table of Contents

Pilots sending rounds downrange during an aerial gunnery exercise at Fort Stewart, Georgia. U.S. Army photo by CWO3 Bobby Triantos.

completely editable (that is, no longer "locked") for the combat aviation brigade and state commander's risk management jurisdiction. All RCOP instructions are now fully embedded in the Excel spreadsheet for this version. Army Aviation RCOP v1.1.0 will be available fully editable on the USAACE, DOTD, DTAC Doctrine Branch SharePoint site.

## Annex D—Digital Fighting Documents:

To be released in early Fiscal Year 2023, the digital fighting documents annex will be available fully editable on the USAACE, DOTD, DTAC Doctrine Branch's SharePoint site.

This suite of documents will be a consistently growing collection of USAACE-vetted fighting documents to assist staff officers and battle officers at all echelons to focus on mission planning and battle tracking rather than product development.

Additional annexes pertaining to COMPOs 2 and 3 remain in effect.

## Recommended additional reading for Aviation leaders:

- Army Doctrine Publication 1-01, "Doctrine Primer," July 2019
- **All New** Field Manual 5-0, "Planning and Orders Production," May 2022 Revised Field Manual 6-0, "Commander and Staff Operations," May 2022
- Training Circular 3-04.11, "Commanders Aviation Training and Standardization Program," April 2022

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, 2d 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, 3d General Support Aviation Battalion (GSAB), 2d Combat Aviation Brigade, South Korea; and Executive Officer, D/3-2 GSAB. CPT Howard currently serves as the Doctrine Branch Chief, DTAC, DOTD, 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.

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# A Word From the Doctrine and Tactics Division (DTAC) Chief

The article on page 48 is one we would have reprinted in whole if *Aviation Digest* were limited to a common access card-wielding audience. However, most of our readers will still be able to log into the restricted Center for Army Lessons Learned website to view it in its entirety. Just because it is written at a Corps level, do not brush it off thinking it'll never apply to you! You never know when you will find yourself in a warfighter exercise (WFX), as a training audience, response cell member, puckster, or guest observer-coach/trainer.

More importantly, it highlights how we in the Aviation Branch don't understand as much as we think we do about airspace. Even the outdated Field Manual (FM) 3-0, "Operations," (2017) incorrectly discussed airspace control as a responsibility of all commanders assigned an Area of Operations (AO). This was corrected in the newly published FM 3-0, clarifying the difference between **airspace control**, which is only granted by the Joint Force Airspace Control Authority, and **airspace management**, which all commanders exercise (Joint Publication 3-52).[1]

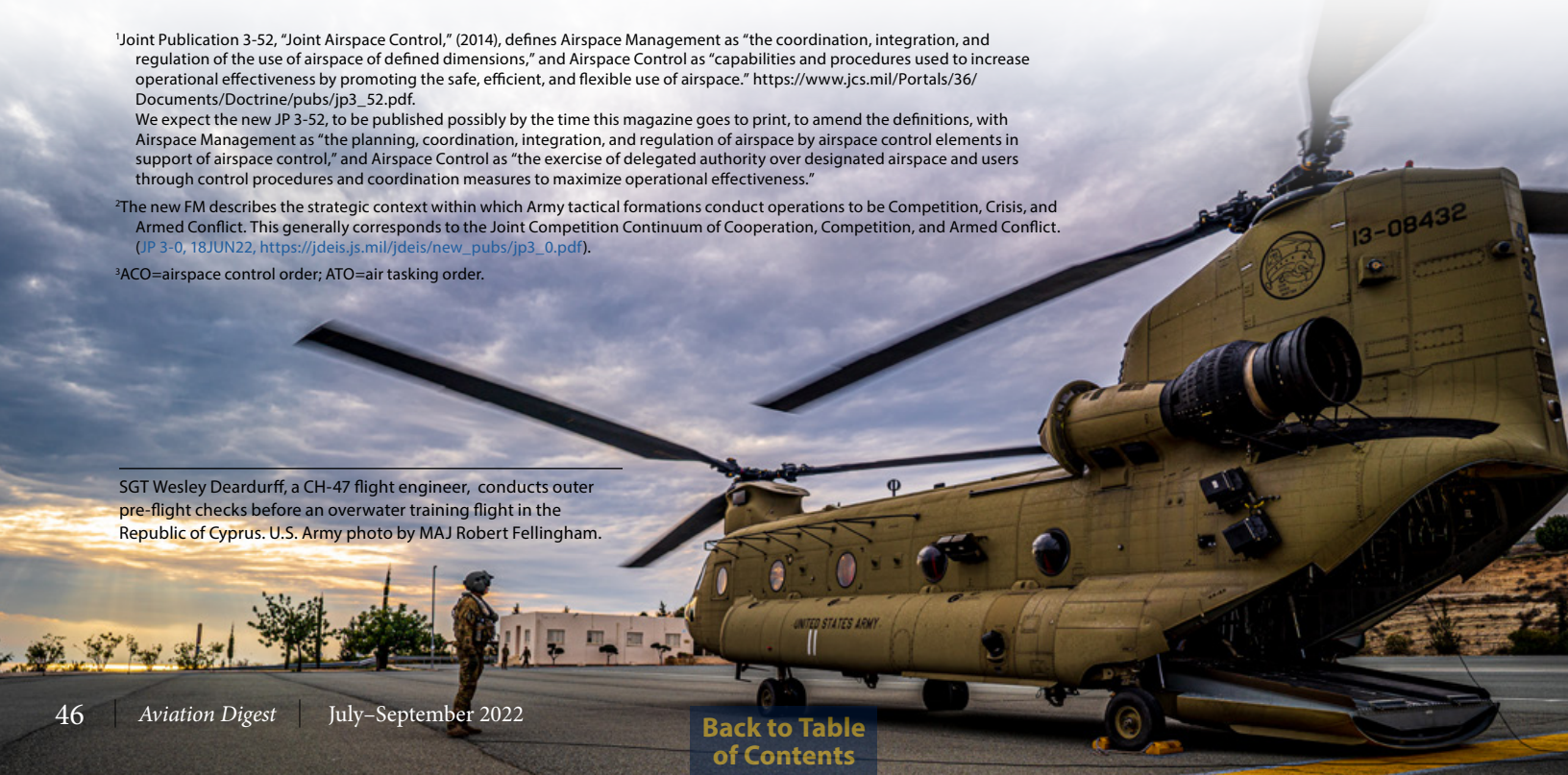
As professional aviators, we're quite adept at flying through the National Airspace System (NAS) and could still spout off the differences between Class B, C, and D airspace on any given checkride. But what about airspace in a strategic context,[2] e.g., taking joint and international users into consideration at any point in the range of military operations? We didn't have to worry about it much during counterinsurgency (COIN) as we owned the skies in our AOs in more ways than one, and I would argue most of us did not fly our combat time contingent on Division, Corps, or Joint airspace management or control. When was the last time most of us had to worry about fully understanding the ACO or ATO?[3] Can we actually describe what they are in our own words, or are we only acronym-deep?

A challenge the Army faces as we continue marching into the large-scale combat operations (LSCO) mindset: How can we coordinate airspace without adding so many layers of control that dynamic management becomes too convoluted? Understanding that LSCO situations can easily throw us back into full analog mode, we can't rely purely on all our mission command systems talking or giving us the immediate situational awareness to make decisions literally "on the fly." Even without **denied, degraded, or disrupted space operational environment** considerations, our WFXs clearly show us that the Army, at echelon, has challenges getting all our systems communicating! This is even more difficult in a joint environment when Army systems need to communicate with sister service

[1]Joint Publication 3-52, "Joint Airspace Control," (2014), defines Airspace Management as "the coordination, integration, and regulation of the use of airspace of defined dimensions," and Airspace Control as "capabilities and procedures used to increase operational effectiveness by promoting the safe, efficient, and flexible use of airspace." https://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/jp3_52.pdf.
We expect the new JP 3-52, to be published possibly by the time this magazine goes to print, to amend the definitions, with Airspace Management as "the planning, coordination, integration, and regulation of airspace by airspace control elements in support of airspace control," and Airspace Control as "the exercise of delegated authority over designated airspace and users through control procedures and coordination measures to maximize operational effectiveness."

[2]The new FM describes the strategic context within which Army tactical formations conduct operations to be Competition, Crisis, and Armed Conflict. This generally corresponds to the Joint Competition Continuum of Cooperation, Competition, and Armed Conflict. (JP 3-0, 18JUN22, https://jdeis.js.mil/jdeis/new_pubs/jp3_0.pdf).

[3]ACO=airspace control order; ATO=air tasking order.




SGT Wesley Deardurff, a CH-47 flight engineer, conducts outer pre-flight checks before an overwater training flight in the Republic of Cyprus. U.S. Army photo by MAJ Robert Fellingham.



Back to Table of Contents

A U.S. Army CH-47 Chinook helicopter flies over Range 48, Fort Drum, New York, June 13th, 2021. U.S. Army photo by SGT Matthew Lucibello.

counterparts. Compound that with the enemy forcing us to relocate while continuing to jam key elements of the electromagnetic spectrum; it's a tall order for sure!

Deconflicting friendly fires and aviation—especially with the broadening role of unmanned platforms; the evolution of aircraft, their systems, and their munitions; the expanding reach of Army fires; and the joint nature (vs. our narrow COIN-centric perception) of "the stack"[4] is already tough enough even before the enemy gets that vote. **Aviation is a maneuver force**: As a reminder, in Army Doctrine Publication 3-0, "Operations," (2022, p. A–3) the Army defines maneuver as "coordinated movement and fire." The Aviation Branch, collectively, needs to become well-versed in fires and ground maneuver doctrine, not just our own FM 3-04, "Army Aviation" (2020). To that end, as the U.S. Army Aviation Center of Excellence Directorate of Training and Doctrine revises FM 3-04 and Army Technical Publication 3-04.1, "Aviation Tactical Employment," (2020) over the coming fiscal year, we will be pulling in as much "maneuver speak" as we can from the newly published FM 3-0 and the soon-to-be published FM 3-90, "Tactics."[5] Such language and the resultant increased understanding will greatly enhance our ability to effectively plan and operate within a LSCO environment, both on the ground and in the airspace.

Additionally, we need to train—jointly—procedural control as a default over positive control and understand airspace from a wartime perspective and not just the 'upside down wedding cakes,' 'class B shelves' and all the other trappings of the NAS. How are your units getting after this challenge? Please send us letters to the editor, or an idea for an article, to keep the conversation going!

Finally, as you read this Corps-level lessons learned white paper, again we ask you to join the professional dialogue, whether you agree or disagree with the tactics, techniques, and procedures described by the authors. I think one thing we can all agree on is that the WFX still has a long way to go in effectively replicating many joint, interagency, intergovernmental, and multinational aspects. On the joint side, airspace is one of those areas where the way we manage it in a WFX is likely not how we would in a LSCO environment. But, WFXs provide a place where we can test ideas, push boundaries, ask questions, and get our senior leaders thinking about the problem in a way we may otherwise brush to the side.

Keep your eyes out for the new FM 3-90, and check out the new FM 3-0; we'll write more about those in the next issue. To read up more about WFXs and various LSCO topics, join the U.S. Army Aviation Center of Excellence LSCO Leader Professional Development Classes via Microsoft Teams! Click "join or create a team" at the bottom of your teams list, then select "join a team with a code." Use code dp8dpxd.

JULIE A. MACKNYGHT
LTC, AV
DTAC Chief

[4]The "stack" is one of those terms we all think we know but we don't know where we know it from… It originated as Close Air Support jargon, and the only place we could find it codified in doctrine is in the Multi Service Tactics, Techniques, and Procedures (MTTP) for Multi-Service Brevity Codes (May 2020), bearing the Army's designation Army Techniques Publication 1-02.1. In an air-to-air [A/A] context, it is defined as "Two or more CONTACTS within GROUP criteria with an altitude separation in relation to each other (typically above >=10,000 foot separation)." A Contact is defined, in the [A/A] context: "Individual radar return within a GROUP or ARM." Group, in the [A/A] context, is "Any number of air CONTACT(S) within 3 nautical miles in azimuth and range of each other."
https://intelshare.intelink.gov/sites/alsacenter/SiteCollectionDocuments/brevity_2020c1.pdf or
https://armypubs.army.mil/ProductMaps/PubForm/Details.aspx?PUB_ID=1009227

[5]FM 3-90's anticipated publication date is November 2022.

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# Effective Airspace Management in Large Scale Combat Operations

Center for Army Lessons Learned Publication No. 22-675, May 2022

V Corps Airspace Management Tactics, Techniques, and Procedures observed during Warfighter Exercise 22-1, 29 September to 5 October 2021 in Grafenwoehr, Germany

Authored by: CW3 R. Jason Walthall, V Corps Air Traffic and Airspace Management Technician (ATASMT); CW2 Harry R. Wise, V Corps ATASMT; SFC Dustin T. Thoele Airspace Element; SSG Shane C. Polidoro, V Corps Airspace Element; and Mr. Thomas Mirto, CALL Senior Analyst

This article examines several effective airspace management and control tactics, techniques, and procedures (TTP) used by the V Corps Airspace Element during WFX 22-1. These TTPs were designed to improve Corps airspace management and control of assigned forces. This paper highlights some of those TTPs to assist other Corps staffs as they prepare for large scale combat operations (LSCO). This article also highlights Corps-level airspace challenges to better inform training and doctrine development.

To view the entire article, please log into the common access card-enabled CALL website at:

https://call2.army.mil/docs/doc18202/18202.pdf


U.S. Army Black Hawk helicopter performs deck landing qualifications on the USS *Billings*. U.S. Navy photo by MN2 Justin Hovarter/Released.



Back to Table of Contents

# New CALL Product

## Army Lessons Learned Forum

Lessons Learned to Drive Change

Center for Army Lessons Learned

### CALL Publication 22-07: Commander and Staff Guide to Counter-small Unmanned Aircraft Systems in Large Scale Combat Operations.

With the increasing threat from small Unmanned Aircraft Systems (sUAS) on the battlefield, what are the best practices and lessons learned from U.S. Army divisions and corps, under current MTOE, to counter enemy sUAS operations in large scale combat operations (LSCO)? How do division and corps commanders and staff best integrate and sychronize active/passive measures and current and emerging kinetic/non-kinetic capabilities in C-sUAS operations? This product provides an overview of the sUAS threat and system components: (unmanned aircraft, ground control station, launch and recovery sites, and communication links), as well as best practices and lessons learned to detect and track, identify and report, and ultimately defeat threat sUAS

**22-07: Commander and Staff Guide to Counter-small Unmanned Aircraft Systems in Large Scale Combat Operations**

# THE ARMY LEADER EXCHANGE BULLETIN

"LEAD WELL AND DEVELOP OTHERS"

## Issue 22-10: October 2022

### Welcome to the ALx Bulletin – an easy way to stay informed on leader development and the Army profession

*Sign up to receive this monthly Bulletin: https://usacac.army.mil/forms/ALXRegistration*

The monthly **Army Leader Exchange**, published by the Combined Arms Center, is a curated selection of professional development-focused articles, podcasts, doctrinal notifications, and calls to participate in the Army's professional dialogue.
It is generally broken up by sections: **Execute Today** (near-term recommended reading), **Prepare for Tomorrow, Learn Always** (the current issue has some interesting articles about Afghanistan, Ukraine, and cyber, for example), and **Opportunities to Drive Change.**

### More resources to help prepare for LSCO

*Regardless of your comfort level with LSCO, there are plenty of resources on the subject. Army University Press has a fantastic page with content focused on LSCO that you can spread to your formations. Additional articles and resources can be found in the rest of our bulletin below:*

### Execute Today

**Delegation Assessment and Analysis Tool** – This 12-item survey will help you determine how well you delegate. The website includes analysis based on specific questions to help hone leaders' delegation abilities.

**Fusing Data into a Battle Damage Assessment for the Commander** – BDA will be particularly important for staffs training for LSCO. This article serves as a supplement to doctrine to help create more awareness of enemy combat power on the battlefield to drive friendly decision-making.

### Prepare For Tomorrow

**Tanks in the Turf** – This article analyzes the use of tanks during several campaigns and argues the merits of armor formations during amphibious operations. "The tank's qualities of shock, mobility and protected firepower make it essential to the effectiveness of combined arms, especially in amphibious operations."

**Expanding the Battlefield: An Important Fundamental of Multi-Domain Operations** – "After summarizing MDO, this article will describe the physical characteristics of the operational problem in some detail."

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# The Gunner and the Grunt:

## Two Boston Boys in Vietnam with the First Cavalry Division Airmobile

**Authors, Michael L. Kelley and Peter Burbank; King Printing Company, 2020; 202 pages**

**A book review by CW5 Leonard S. Momeny, EdD**

It is exceptionally rare that a small press or independently published book is the subject of a formal book review. However, T*he Gunner and the Grunt: Two Boston Boys in Vietnam with the First Cavalry Division Airmobile*, is a worthy exception. The justification for such consideration is best captured in the lead author's opening sentiments of gratitude and hope. Within the *Acknowledgements* section he thanks readers "for learning about a soldier's life in the Vietnam War" and hopes that "a younger generation…will read about the veterans of the Vietnam, Afghanistan, and Iraq Wars" (Kelley & Burbank, 2020, p. vii). That heartfelt sense of graciousness perfectly frames what can only be called a raw and honest story about youthful starts in the military, the marriage of man and machine, and the unfiltered accounts of the ugliness of war.

The book opens, albeit independently of a joint experience, with both the gunner and the grunt each taking an opportunity to communicate their initial experience with the military. Both gentlemen came from Boston in 1964 and yet separately speak to the things that influenced their decisions to join the United States Army. As you can imagine—and as many of the readers can even potentially relate—the family, specifically the parents of the eventual Soldiers, were not initially supportive of their decision to join the Army. This sentiment was further challenged by a world that was, at least at the time of their enlistment, still coming to a full understanding of just how involved the nation would become in the Vietnam War.

The initial training of both the gunner and the grunt shares the commonality of cultural shock. While both men went to different career fields and trained on different bases, each was sent to training bases in the Deep South of a nation that was still very much at war with its own identity and acceptance of others. The military reader is liable to feel this experience to their core, as many remember the challenge of leaving their home for new surroundings and the moment one initially realizes that the world is both bigger and more complicated than initially thought.

The coauthors capture something else significant to the shared experience of the Soldier beyond leaving home, and that is the eventual marriage between person and machine. Every reader is likely to recall the moment of their first introduction to their intended tools of war. For Mr. Kelley, that tool of war was the helicopter, a multitude of which included the OH-13, the CH-21, and the eventual UH-1. Mr. Burbank, or Peter, began his relationship with his decided tools of war much earlier in his training because the infantryman must simply wed to the rifle, or in his case, M-14. The reader will easily recognize the excitement that both Soldiers felt when their training and integration with their decided weapons of war culminated in eventual graduation and assignment to their first unit. It is at this point in the book there is a distinct difference that appears between the experiences and desires of the two gentlemen, as one hoped for a career that would see him to Europe, and the other sought to immediately prove his mettle in combat. Both would quickly see things change, and their shared future awaited them in Vietnam.

The authors both ended up decidedly connected to the First Cavalry Division Airmobile, and many of their teammates were recent veterans of the Ia Drang Valley. What follows is an introduction to a war that has decidedly left an impact on both gentlemen, and their descriptions do not soften the blow for any reader. The common variable, whether as a point of frustration or of salvation, is the UH-1. The Blues, or infantry, were decidedly attached at the hip to every aspect of the helicopter, and this new concept of air mobility was single-handedly rewriting the foundation of U.S. Army movement and maneuver. The horrors of war and the viciousness of the nature of man

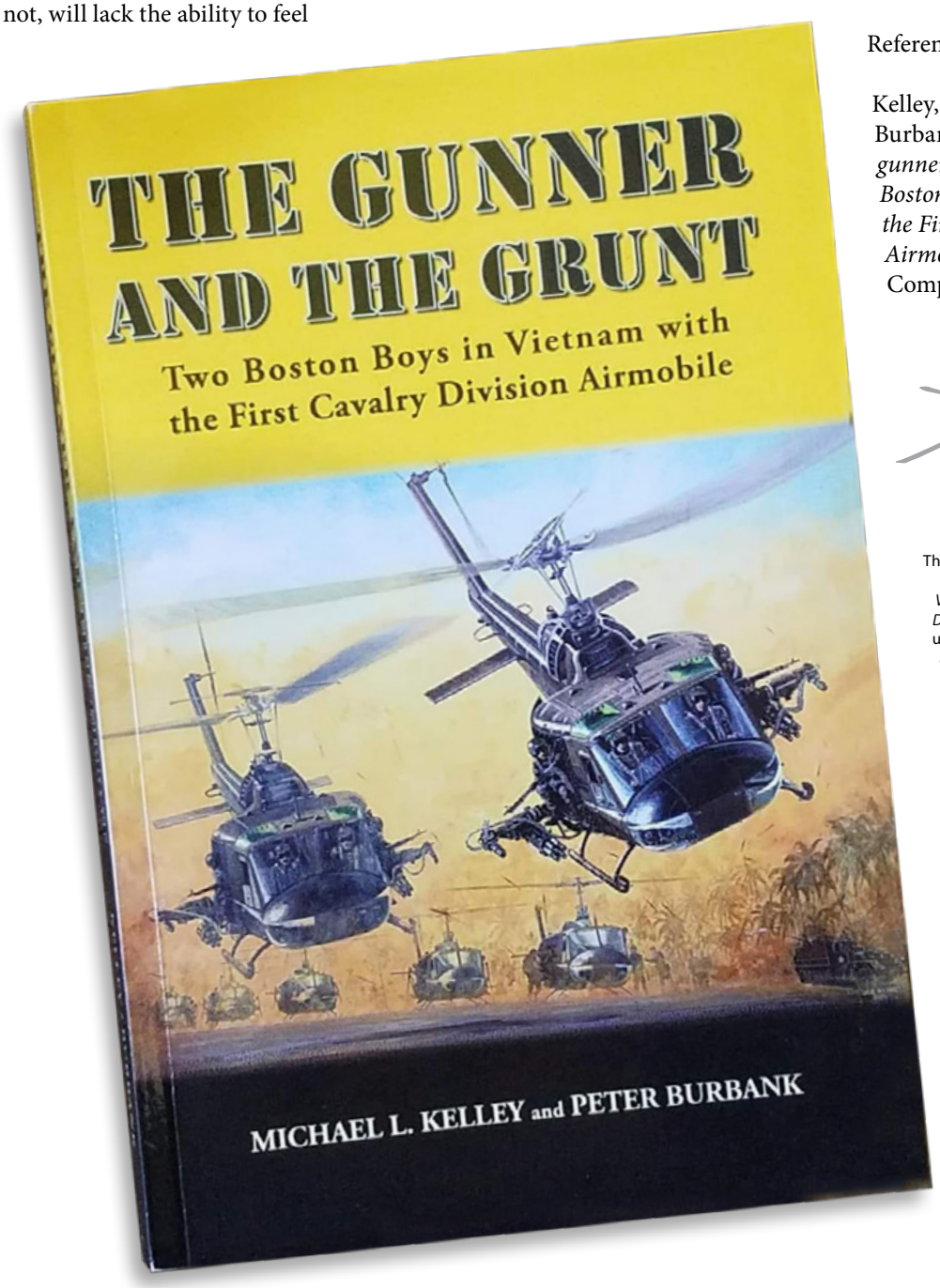




Back to Table of Contents

are on full display as the authors describe a need for survival amid the challenge of being surrounded by a nearly invisible enemy force, the Viet Cong. I can only assume that even many current veterans of combat will be taken aback by the described approach to meeting the enemy with tools that include white phosphorus munitions. As the authors recall, "War is hell," and these young men were doing everything in their power to simply survive (Kelley & Burbank, 2020, p. 79).

Not one single reader, veteran or not, will lack the ability to feel the challenge that the horror of war brings and sustains over the course of a lifetime for those who experience it. And yet—the gunner and the grunt—seemingly joined forever in their application in war, never fail each other, even after their joint experience in Vietnam. That is because these two gentlemen joined together in an effort to communicate the challenges and stress of combat to those who are good enough to listen. The act of talking through both experience and trauma can be difficult and yet healing for those who are sharing and more importantly, educational for those who have never experienced such challenges. The book, *The Gunner and the Grunt*, promises each reader an opportunity to learn about past conflicts through the eyes of another and more importantly, a look into the dedication that the Soldier has to their brother or sister to their left and right. Finally, this memoir reminds us that the trauma of war lingers, and we cannot turn from it. We can, instead, open the eyes of other veterans to understand the need to share their stories. Take the time to experience the story of the *Gunner and the Grunt*.




Reference:

Kelley, M.L. & Burbank, Burbank, P. (2020). *The gunner and the grunt: Two Boston boys in Vietnam with the First Cavalry Division Airmobile*. King Printing Company.

The book, *The Gunner and the Grunt: Two Boston Boys in Vietnam with the First Cavalry Division Airmobile*, is available upon request by emailing the author at michaelkelley67@yahoo.com

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Back to Table of Contents