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Aviation Training for Large-Scale Combat Operations

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Task Force Tigershark takes flight at Operating Base Fenty, Jalalabad, Afghanistan. U.S. Army photo by CPT Brian Harris

The Command Corner

It has been a privilege and honor to serve as your branch chief over the past 37 months. The daily work our Soldiers, Department of the Army Civilians, and contractors perform is inspirational and critical to driving change across the enterprise. Your efforts increased the readiness of the branch as a whole, ensuring we maintained our commitment to the ground force commander. Thank you.

Over the last 80 years, modern Army Aviation evolved from an organic aviation capability within artillery regiments to a fully integrated, essential member of the combined arms maneuver team, mastering combat capabilities fighting in the lower air domain. Maintaining our ability to fight and win in large-scale combat operations (LSCO) with the Army of 2030 requires a transformational change to incorporate unprecedented speed, range, lethality, and survivability to achieve decisive overmatch.

We are in the process of transforming the way we develop leaders and prepare them to meet the challenges of LSCO. The Army of 2030 will continue to fight and win with a ready fleet of Apaches, Black Hawks, and Chinooks as we set the conditions to integrate future vertical lift (FVL) capabilities: Future Long-Range Assault Aircraft and the Future Attack and Reconnaissance Aircraft with its ecosystem of air launched-effects (ALE) and long-range precision munitions (LRPM). As we prepare for the next fight, we must turn our concepts into doctrine. Field Manual (FM) 3.0 is under final review; simultaneously, we are refining and updating FM 3.04 and other doctrine to implement those changes to remain nested with the Army foundational doctrine. Doctrine is the language of maneuverists, and our leaders must understand our doctrine and how the remainder of the combined arms force fights.

To be ready to meet and defeat current and emerging threats, we must adjust and adapt to **how** we train and **what** we train. We must focus on sharpening our tactical skill set and mastering the fundamentals of employing our aircraft as the aerial arm of the combined arms maneuver. Army Aviation warrant officers (WO) are the technical and tactical experts, providing critical and timely advice to the commander on the employment of aviation capabilities in support of the ground force commander.

We are shaping WO development by focusing their training to become aviation technical and tactical experts at the company and battalion levels. The WO Basic Course and Initial Entry Rotary-Wing Training will reinforce the importance of progressing to pilot-in-command, so we can begin to put in the reps and sets at the company level to advance these leaders to their tracks to develop readiness enablers in the form of instructor pilots, aviation maintenance and sustainment officers, and safety officers. Our WOs will mature into our aviation senior advisors enabling brigade and division commanders.

We are integrating LSCO into our professional military education across all enlisted, noncommissioned officers, WOs, and branch officer courses. Our focus is on the tactical employment of our aircraft as weapon systems. The WO Advanced Course is restructured as the new Advanced Warfighting Skills Course. We removed hours of the military decisionmaking process, MFRs, and other tasks and replaced them with warfighting skills to sharpen the tactical knife-edge of our junior WOs. Warrant officers make up 75% of our aviators, and we need them to be tactical and technical experts in the employment of our aircraft.

Our Soldiers train every day to remain ready to respond to any contingency. Our training is tough, realistic, and combat focused. In the last 12 months, we deployed combat aviation brigades on scheduled rotational deployments to the Middle East, Korea, across the Pacific, and Europe. We've also sent units to Afghanistan and Europe on short notice to meet emerging threats. Our Soldiers are trained, fit, disciplined, and ready to meet any challenge.

We are at a very dynamic and transformative time in Army Aviation. As the current environment in Eastern Europe reminds us, we need to be prepared to fight today, while we continue to build and prepare for the future. Training under the most demanding conditions to master the fundamentals is critical to our success.

Low-level flying is not new to Army Aviation, but it is new to this generation of Army Aviators. We must become more tactically sound for the next fight. We have to get out of the clouds and back down to terrain flight altitudes to increase survivability against adversary air defense threats. We developed several training support packages for the force to assist in terrain flight, hoist operations, radar threats, and other LSCO-focused training requirements.

The new unit trainer and evaluator program is critical to making our crews more tactically proficient at LSCO. Developing unit trainers allows our instructor pilots to get out of the traffic pattern and focus on the tactical training of our formations. We will no longer execute missions as a flight of 2x Apaches supporting a direct support relationship by flying to an area with a frequency and call sign waiting for a mission. Instead, we will train to collective proficiency, conducting company and battalion maneuver operations to provide the ground force commander with the requisite fire power and capability to execute their mission.

The addition of FVL aircraft, coupled with ALE, LRPM, and Future Tactical Unmanned Aircraft System operating within modular open system approach, is a game-changer on the battlefield. We are bringing unparalleled speed, lethality, and survivability to the joint force. Once we develop this expertise, we need to retain it. Aviation retention efforts are proving to be effective in keeping the right talent in our formations. Our targeted bonuses, 10-year active duty service obligations, and enhancements through the talent marketplace ensure we have the right trainers, maintainers, and leaders in our branch.

There is a lot going on in Army Aviation as we continue to execute the missions of today while preparing for the challenges of tomorrow. The last 2 years were the safest in Army Aviation history. This is directly related to engaged leaders and phenomenal maintainers who conduct maintenance to standard and outstanding aviators who employ their aircraft in a professional and disciplined manner to ensure mission accomplishment. As we move forward, we need to retain this leader focus on readiness.

I am proud of what our Total Aviation Force has accomplished over the last 3 years. The Army National Guard and Army Reserve continue to maintain exceptional levels of wartime readiness while responding to fires, floods, civil-unrest, and critical transport enabling COVID-19 pandemic operations. We remain 76% committed around the globe providing safe, mission-critical and time-sensitive aviation support to the Army and Joint Force.

Our branch is in good hands…yours! Continue to train, innovate, and master the fundamentals!

Godspeed, and Above the Best!

David J. Francis
Major General, USA
Commanding

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12th Combat Aviation Brigade performs live-fire aerial gunnery training. U.S. Army photo by PFC Jacob Bradford

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Apache attack helicopter lands at airfield in Tazar, Hungary. U.S. Army photo by SGT Preston Malizia

Talk About Flying: Addressing Army Aviation's Unique Requirements

By LTC John Q. Bolton and MAJ Wyatt A. Britten

"We've got to talk about fighting. You can go a long way in the Army by being a great leader... unless you don't know how to fight—so do both well."

—LTC Teddy Kleisner

Army Aviation provided exemplary support during sustained combat operations in Afghanistan, Iraq, and elsewhere. Amid the evolving security environment, we cannot forget low-intensity conflict but must nevertheless adjust Army Aviation training to new realities. The environment, missions, and enemies aviators faced for the past 20 years have little in common with contemporary threats, such as Russian and Chinese anti-access systems, or the littoral environments of the Western Pacific. Since 2014, Fort Rucker's initiatives to "defrag the hard drive" and reform warrant officer career tracks have largely focused on *individual training*—how aviators operate inside the cockpit—rather than unit-level training (Francis, 2021; Sauls, 2014). While these changes are the right moves for the Aviation Branch, evidence from combat training centers (CTC) and warfighter exercises demonstrates that Army divisions poorly employ aviation assets, and Army Aviation units likewise struggle in contested environments and performing major operations such as air assault and attacks out of contact (Sevigny 2021; Woodward & Godfrey, 2015). To address these shortcomings, we recommend three lines of effort focused on *unit-level* deficiencies in Army Aviation training: Foster a flying culture, address the differences between aviation training and "Big Army" training regimes, and emphasize large-scale training. Doing so will modernize the Army Aviation training culture and capitalize on individual-level initiatives already in place.

First, Army Aviation must embrace its uniqueness, even as we serve the broader U.S. Army and joint force. A recent *Field Grade Leader* article recommended Army leaders "Talk About Fighting" to their formations; that is, discuss the nature of the military profession along with the *what and how* unit leaders manage training and the *why* of military service (Kleisner, 2018). This is great advice: Aviation leaders must likewise "Talk About Flying."

"Talking About Flying" means open and frank discussions of *how* we fly and maintain aircraft, support ground forces, and fit into the joint force along with teaching aviation doctrine. These are critical to furthering the Aviation Branch. It also means pilots' classes are the fundamental activity (aside from maintenance and flying) of an aviation unit, not merely a regulatory requirement. "Talking About Flying" also includes promoting aviation at local events such as fly-ins, fostering aviation-centric professional

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development beyond warrant officer schooling and weekly pilots' classes, and supporting aviator interest in civilian ratings. These types of efforts will build unit morale while helping to address some of the branch's aviator retention issues (Randel, 2020).

It goes without saying, but we are not endorsing arrogance. Army flying is a privilege that comes with high expectations of competence at a myriad of difficult tasks. We are a fortunate few who are privileged to operate complicated aircraft in often complex operations. Even routine training flights consist of maneuvers that most civilian pilots do not perform. Army aviators consistently execute precise operations into small landing zones, conduct nap-of-the-earth flight, and employ ordnance and combat tactics, often with tight power margins and/or at night. An average Army aviator's competency exceeds civilian training and the other services' helicopter missions—which are rarely on the same scale as Army Aviation's.

Addressing Army Aviation's Unique Training Requirements

Fostering an Army Aviation culture means protecting. Our second effort concerns confronting the structural and cultural impediments to merging aviation requirements with a "Big Army" training regime. The challenge is primarily structural: Army training paradigms are not well-suited for the continuous training aviation units require. Army Aviation's *unique capabilities* imply *unique requirements*. Aviation is not something units do after "Army stuff," it is what we do *for the Army*. Thus, it is impractical that Army Aviation units shoehorn themselves into the same training management cycles as brigade combat teams (BCTs) nor complete the same "Warrior Tasks" as 11-, 19-, 13-, or 21-series Soldiers. To achieve proficiency at our mission essential tasks (METs), Army Aviation leaders must focus on *aviation-specific* tasks, even at the expense of mimicking "Big Army" requirements.

Aviation units are not ground battalions who happen to fly. Rather, as a senior warrant officer said, "We are flying organizations that serve the Army" (personal communications, Harkness, 2022). Aviation leaders must articulate that building flexible and lethal aviation combat power requires significant investments of time, money, and focus. Indeed, the minimum hours aviators must fly are just that: minimums. Maintaining aircrew and unit proficiency across a range of tasks requires more time in, around, and talking about the aircraft along with unit-level planning (Forsling, 2016). With the ability to easily gain experience during long deployments all but gone, unit leaders must focus even more on deliberately building competence.

> ***"Aviation commanders and leaders need to synchronize individual and collective training with the aircrew training program, gunnery program, and maintenance program to achieve a progressive, rigorous, comprehensive and repetitive path to achieving unit readiness."***
> **—LTG Michael Lundy (Ret.)**

Yet, when Army aviators explain *why* they are different, we often fail to forthrightly explain this uniqueness, falling back on the same metrics as ground units such as individual weapons qualifications, physical fitness scores, or Soldiers sent to Ranger or Airborne school. Instead, aviation metrics include hours of maintenance performed, pilots-in-command (PIC) certified, and sorties flown in support of ground units. While we need to often translate these to "Big Army" terms, aviation leaders must understand: To *support the infantry*, you do not necessarily need to be *of the infantry*.

Aviation units must focus on doing what is critical to foster the technical and tactical competence of individual Soldiers and aviators, while focusing on *unit-level* tasks. Doing the wrong things well is wasteful. As shown by Figure 1,

Figure 1. Developing training plans (Britten, 2022).

the key tasks, skills, and team-building activities that build aviation combat readiness must drive training schedules. This requires shedding extraneous tasks while recognizing that what worked in the past or what is easily measured may be irrelevant. A recent article made this point succinctly: "Kettlebells are useless on the moon" (Byerly, 2020). Importantly, because we cannot be good at everything; units must focus on what we *must* do well.

For example, aviation units must be capable of operating from field sites. But the ability to deploy in an expeditionary manner is the real training task. Though fieldcraft, such as putting up tents, digging fighting positions, and wearing camouflage *is important*, a unit's ability to operate a remote location with sustained mission command, logistics, and maintenance operations *is paramount*. Whether that remote site is a hole in the trees, a field strip, or a robust (but off-site) airfield matters little. Yet, leaders habitually confuse the "toughness" of training for its effectiveness, confusing superficial activities such as wearing face paint with individual and collective competence. While we do not challenge the need for 15-series Soldiers to maintain weapons qualifications and physical fitness standards; long-distance ruck marches, gas mask weapons shoots (or even at night), and grenade throws are simply not relevant to aviation METs. Yet, the authors have seen each take priority over aviation training, to include aircraft maintenance and necessary flights.

A similar argument exists for limiting 15-series Soldiers from static taskings, such as gate guard. Because *maintenance is training*—and maintenance never stops for aviation units—pulling Soldiers for taskings compounds already-busy aviation units with acute shortfalls, while depriving Soldiers of the hands-on maintenance training they need to improve their craft. While contractors can assist units with some maintenance tasks, they are no substitute for well-trained (deployable) Soldiers integrated into teams with the larger unit. Indeed, a focus on individual maintenance competencies is critical and, with the publication of Training Circular 3-04.71, "Commander's Aviation Maintenance Training Program," required to be tracked and tested (Department of the Army, 2020). Aviation leaders should consider augmenting "Warrior Task" sergeant's time training (STT) with an explicit focus on maintenance tasks. Notably, this does not mean simply executing routine maintenance in place of STT events, but rather, constructing STT with a focus on maintenance and aviation tasks.

The structural impediments to aviation training may be compounded by culture. Often the challenge is not "Big Army" requirements but our failure to explain *why* aviation units must eschew extraneous tasks or potentially curtail ground support. Having served outside the branch in engineer and infantry units, aviation units are, by far, the busiest units in the Army. The reason is simple: While going to the field is undoubtedly harder for ground units, aviators never get a break. Consider a simple statistic: A High Mobility Multipurpose Wheeled Vehicle (Humvee), needs 168 hours of labor annually, while a helicopter routinely needs an equivalent amount weekly. Ground vehicle services take 1–3 days compared to over a month for helicopter phase maintenance inspections. The non-negotiable requirements of aircraft maintenance, aviator proficiency, and aviation support equipment do not abate, even marginally, before, during, or after major training exercises as these activities do for BCTs. And those activities just keep the lights on. Certifying new aviators (who do not arrive as PICs as in other services), annual academics, aviator and maintainer records management, Aviation Resource Management Surveys, and visits from the Directorate of Evaluation and Standardization (DES) round out unique (and intense) aviation requirements.

> ***"Every pilot is required to get prescribed numbers of these essential tasks at regular intervals. Those flights aren't just administrative, they're essential."***
>
> **—Carl Forsling, author and Marine aviator**

Aviation Unit Culture Redux

We believe most division and brigade commanders and staff understand aviation's unique requirements, provided that Army Aviation delivers requested (and effective) support. However, cursory understanding of unit-level differences requires detailed explanation. Aviators cannot blithely explain away uniqueness, but rather, must integrate ground commanders through invitations to aviation-specific activities such as production control meetings, aviation gunnery briefings, and aviation mission planning sessions. Doing so will not only build understanding of aviation's uniqueness but will go a long way toward generating common vocabulary and expectations across the combined arms team.

While explaining up and out, Army aviators must also address a branch-wide cultural issue. Aviation leaders strangely and perniciously guilt aviators for doing aviation activities. Military aviators in other services would look askew if they did not maintain currency when assigned near flying units, even if not in that unit. But Army aviators, on division staff for example, routinely cannot find the time to fulfill their *responsibility* to keep current. Consider that U.S. Air Force Lieutenant General, Jeffrey Harrigan, routinely flew combat missions in the F-22 during his time as commander of Air Forces Central Command (Figure 2), while Army aviators assigned to BCTs or other staffs routinely fail to maintain the light burden of flight activity category (FAC) 3 minimums, even when aviation units are nearby.[1]

This disavowal aviator status has detrimental effects as it percolates throughout a unit(s). Consider the times you may have heard a commander ask, "Where is Captain X?" Upon learning, "He/She is flying," a hush likely took over the room. Then something like: "Well, they won't fly again until I say," from certain types of leaders. Though no one criticizes an infantry officer for missing a meeting to attend a live-fire or an artillery leader likewise supervising gunnery, aviation leaders routinely encounter this type of destructive criticism. In airborne BCTs, personnel are routinely absent for 6–10 hours for currency jumps. But in Army Aviation, we often punish ourselves for doing what

[1] More information on FAC 3 can be found in Training Circular 3-04.11, 2018, page 7-4 at https://armypubs.army.mil/epubs/dr_pubs/dr_a/pdf/web/arn14459_tc%203-04x11%20c1%20incl%20final%20web.pdf

Figure 2. U.S. Central Command Air Forces (now, U.S. Air Forces Center) Commander, Lt. Gen. Harrigan, completes his final F-22 flight on 7 August 2018. U.S. Air Force photo by TSgt Nieko Carzis

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Marne Air Soldiers learn about the newest version of the AH-64E Apache helicopter. U.S. Army photo by SPC Savannah Roy

aviators joined the Army to do. When we shortchange aviation as a priority for *aviators*, we should not be surprised that a sizable number of aviators fail to meet their *minimums*.[2] We do it to ourselves. When an aviation leader hears an aviator is flying, the right response is: "Good, that flight supports our training plan."

Given the relatively low cost of Army helicopters compared to other military aircraft, we have no excuse for not meeting minimums. Not developing an aviation culture creates tension within the branch, particularly for junior commissioned officers. Oddly, when aviators focus on their craft, they are often portrayed as "flyboys" or worse, even by some senior aviators. It must be said: Aviation lieutenants have a trying enough time learning to be officers, managers, and aviators without having a guilt-laden Sword of Damocles hanging over them. Indeed, junior commissioned officer aviators in other services focus on *nothing but flying* for their first assignment.

Notably, such anti-aviation attitudes are implicitly faulted in the 2020 National Commission on Military Aviation Study (NCMAS, 2020). The study, which examined 6,000 military aircraft mishaps from 2013–2019 that cost 286 lives and $11.6 billion, concluded that a lack of basic proficiency combined with distractions coming from non-flying duties was a proximate cause in many accidents. Even when pilots *did fly*, meeting only minimum flight hours was still associated with increased accidents (NCMAS, 2020; Forsling, 2016). Furthermore, the NCMAS provides ample evidence that aviators who only fly minimums are not only less safe but make collective competence impossible. The NCMAS (and common sense) thus links aviation culture to risk; units that disregard a focus on aviation tasks will increase operational risk to aircrews.

[2]Conversation with a DES official. Though accurate records across all of Army aviation are notoriously difficult to compile, 15% of aviators not meeting minimums is an educated estimate informed by DES unit visits and a flying-hour data scrub in calendar years 2019–2020.

Focus on Collective Training

Third, aviation units must emphasize battalion/squadron missions at scale. This requires a deliberate focus aside from supporting ground units. While CTC rotations are phenomenal training events, they are designed for BCTs. Aviation units are not the primary training audience at CTCs and may even be an afterthought, depending on the training scenario. Therefore, aviation units must develop their own collective training plan alongside and in concert with the supported BCT's plan.

While Army aviators would benefit from a weapons school similar to the Air Force and Marine Corps variants, the branch's contribution to the Army's mission comes from our collective task performance (Bolton, 2017). The *essential collective task of an aviation unit is to deploy and conduct expeditionary aviation operations.* Gunnery, sling loads, air movement, and progression flights all use hours, but these are *incremental* individual and crew-level events tied to unit METs. As the CTC's after-action reports and articles show, the habitual "task-forcing" of aviation units over the past decade has limited our ability to plan and execute large-scale tasks from attacks out of contact to major air assault (Woodward & Godfrey, 2015). Field problems, whether in the woods, sand, or remote airfield, should be designed around collective events with battalion/squadrons managing company/troop operations above the platoon level.

> **"Perhaps the most important lesson learned at [the National Training Center] is that leadership provides the critical variable, despite the wealth of sophisticated, lethal weaponry that surrounds the modern soldier."**
>
> **—LTG Daniel Bolger (Ret.),** ***Dragons at War***

As aptly illustrated by Stephen Biddle's analysis of the Gulf War's land battles, the most effective military units are the *best trained and most cohesive,* not the best equipped (Biddle, 1996; Millett et al., 1986). Regardless of new equipment, aircraft modifications, or even Future Vertical Lift, Army aviators need robust unit-level training that produces competence, adaptation, resilience, and habits.

To better prepare for collective tasks, however, requires more than just "going to the field." Training must require leaders to make decisions under duress with limited information—living with "fog and friction" (Pietrucha, 2016). Units also need to track each aviator's proficiency and development closely, especially their ability to perform the key collective tasks associated with unit METs. Doctrine only requires annual evaluations and grading during readiness level progression and

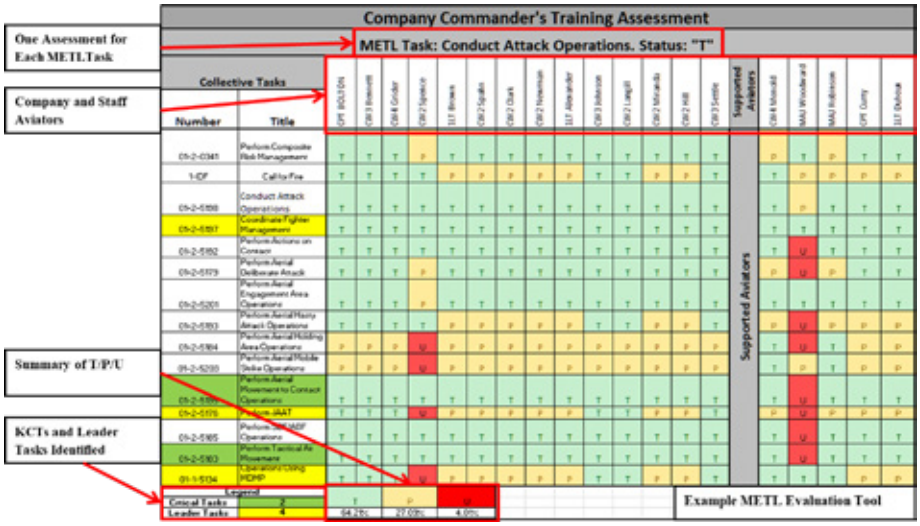

Figure 3. Example of individual aviator MET crosswalk/tracker (Bolton, 2022a).

annual evaluations. This methodology is insufficient to accurately assess units. Too often, Army assessments resemble the scout scene from the film *Moneyball* (Miller, 2011), with unsupported judgements, backed experience, or "business as usual" judgements but lacking objective supporting data. While commanders can make qualitative judgments about their units, they need *quantitative* backing. Commanders, aided by instructor pilots (IPs), must track each MET by each crewmember (Figure 3). Directing tasks on the flight schedule is not micromanagement, it is mission command coupled with detailed training management. Additionally, tracking proficiency ensures aviators do not waste time on already trained or extraneous tasks.

Commanders must track pilots against specific METs to ensure that *individual* flights nest with *collective* training goals rather than serve as means to fly hours; the latter is an inversion of training management but far too common (Bolton & Wyant, 2015). At no point should crewmembers wonder what the purpose of their flight is or how it nests with the unit training plan.

Aviation training management begins with the weekly flight schedule. The flight schedule should reflect hours flown in support of assigned tasks with the commander's guidance (tied to METs), while leaving the specifics to the crew. Too often, flight schedules merely state "Training Flight." This leads to flight planning consisting of little more than an ad hoc planning (guessing) session when the senior aviator asks "what have you done lately?" Well-developed training plans reveal themselves via flight schedules with nested tasks and goals flown across multiple flight modes (instruments, terrain flight, night-vision devices, etc.) to generate collective proficiency. A good flight schedule builds teamwork for the unit by also linking the actions of crew chiefs, support personnel, and staff throughout a "launch-recover-launch" mindset.

In practice, commanders should emphasize fewer, longer duration multiship missions that focus on collective tasks as opposed to single ship missions of shorter duration. Each non-progression flight should link to a collective task. But simply listing a MET for each flight puts an undue burden on the crew. Units need a bevy of well-built, scalable scenarios. Even simple scripted scenarios employing notional supported units are useful, as they allow an opportunity for the battalion staff to provide input, support, and oversight. As a company commander, one author's unit built 12 scenarios consisting of basic templates air mission commanders (AMC) could adjust based on guidance. Scenarios allow AMCs to simulate or prompt events, which then drive training much better. Scenarios can vary in depth from simple grab and go missions, such as aerial reconnaissance, to more deliberate air assaults or interdiction attacks requiring in-depth planning. Increasing complexity at the company level leads to effective battalion exercises. Lastly, scenarios must incorporate decision-making with sufficient information for junior officers and AMCs (Figure 4). The battalion senior officers and warrant officers can not only develop scenarios but serve as evaluators and Observer-Controller/Trainers (OC/Ts).

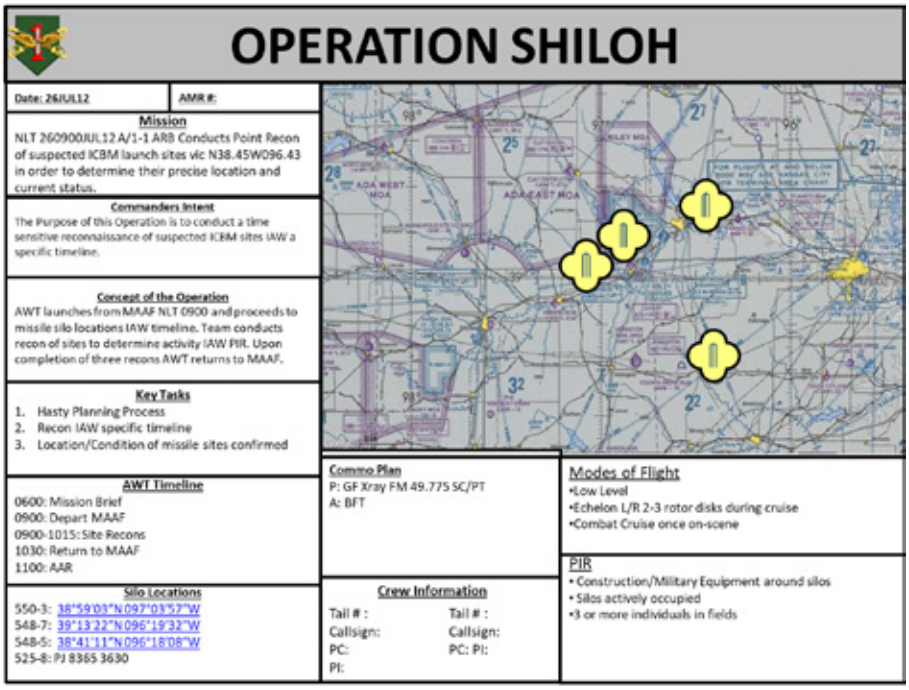

Figure 4. Sample scenario template for two-ship reconnaissance mission (Bolton, 2022b).

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Indiana National Guard dedicates new helicopter. U.S. Army photo by SSG David Bruce

Conclusion

The Army G-3/5/7 calls units to be ready for a variety of challenges, ranging from winning conflict to deterring aggression (Flynn, 2020). To win the next fight, as well as the fight for pilots, Army Aviation units need to focus on preparing aviators for flying and fighting by espousing the uniqueness of Army Aviation culture. Just as ground units need to "*talk about fighting,*" aviation leaders need to *talk about flying* (Kleisner, 2018). Likewise, aviation leaders must develop and protect their unique training plans without haphazardly shaping them to "Big Army" requirements. Last, distinct from support to ground units, aviation units must develop comprehensive, effective, and detailed training plans unique to organic requirements and tracking individual crewmember progress across each unit MET. Supporting each of these efforts is necessary to prepare units to effectively employ what Winston Churchill called "these instruments of colossal and shattering power" (Churchill, 1940).

So how should leaders talk about flying?

- Develop robust aviation professional development programs that exceed basic requirements for pilots' classes. Here, the Federal Aviation Administration provides excellent materials through the WINGS Pilot Proficiency Program.[3] The Airplane Owners and Pilots Association (AOPA) also has readily available vignettes, particularly for Instrument Flight Rules training.[4] Professional development should also include logistics information, such as converting fueler capacity to flight hours.

- Develop metrics intelligible to non-aviator audiences. For example, convert hours flown into trained teams produced, or advertise hours flown in support of ground units. Likewise, focus on building relationships through brigade aviation elements to ensure aviators not only understand their branch well but can speak and translate "air" to "ground."

- Execute battalion-level missions internally, to include the integration of enablers. The scenario need not be terribly detailed (friction will naturally induce complications). Doing so forces staffs to plan, resource, and execute a detailed mission *before* a CTC. But just as importantly, doing so breeds unit comradery, commonality, and similar expectations for aviation units often broken apart.

- Ensure battalion/squadron staffs actively evaluate platoons using OC/Ts. This encourages senior leader involvement so that they can teach and coach their junior officers through the process. It also encourages competition throughout the flight units, which leads to higher commitment and learning. Most importantly, junior aviators will see that the organization is focused on applying aviation combat power.

- **Fly staff aviators often!** Senior aviators have a depth of experience formed in training and combat that needs to be shared with new aviators, while junior staff aviators, often commissioned officers, can gain or offer perspective.

- Implement a clear onboarding program for newly arrived aviators, staff officers and noncommissioned officers, and other key leaders regarding unit expectations and standard operating procedures. Standardization occurs in and out of the cockpit.

- Consider facilitating a program to support aviators getting civilian ratings, either hosted organically or in conjunction with a local flying club. There is no better training for junior aviators than hopping in a simple airplane with legacy avionics and little equipment, compared to Army aircraft. More boldly, with more aircraft and pilots than the U.S. Air Force, there is no reason for the Army's lack of flying activities save for those at Fort Leavenworth, Redstone Arsenal, and Fort Eustis.

- Lastly, in concert with emphasizing an aviator culture, focus on developing PIC. We must *expect* aviators to strive for PIC, lest we devalue the training pipeline and leave aviators to wonder "Why am I not ready?" Companies/troops must hold PIC boards at least quarterly while debriefing each non-PIC on their roadmap to attaining PIC. The battalion/squadron IPs must own this process with input, guidance, and oversight from commanders. We have seen more than a dozen 800+ hour PI warrant officers and far too many senior commissioned officers (MAJ–LTC) who are not PICs (or even flying).

[3] Further WINGS program information is located at: https://www.faasafety.gov/WINGS/pub/learn_more.aspx

[4] You can find more information on the AOPA at their web site: https://www.aopa.org/

- Commanders should also consider fast-tracking commissioned officers to PIC status while they are in flight companies, as that is the only time they can truly focus on the aircraft. This may mean battalion/squadron commanders allow companies and troops to have "extra" lieutenants as executive officers rather than battalion assistant S3s. It is axiomatic that an officer cannot lead teams of aviators if he cannot lead in the aircraft. An emphasis on the branch's professional foundations and abilities must start by building competent aviation leaders.

Army Aviation can make these changes. In fact, the branch has done so before. Aviation operations prior to 2001 largely resembled a "bull in a china shop approach," especially for attack aviation (Robinson, 2012). But aviators and the wider branch executed wholesale doctrinal, tactical, and organizational changes from 2001 onward, innovating and adapting to a new type of warfare. Though our aircraft models are the same (on paper), comparing an aviation unit from its 20-year predecessor reveals marked differences. Pushing the branch through a unit-level training evolution and cultural shift will take a likewise effort, but the results will be worthwhile during distributed operations in contested environments.

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Bravo "Bigfoot" Company conducts a reenlistment flight over scenic landmarks in Washington. U.S. Army photo by CPT Kyle Abraham

UH-60 Black Hawk helicopter on Grafenwoehr Training Area, Germany. U.S. Army photo by PFC Jacob Bradford

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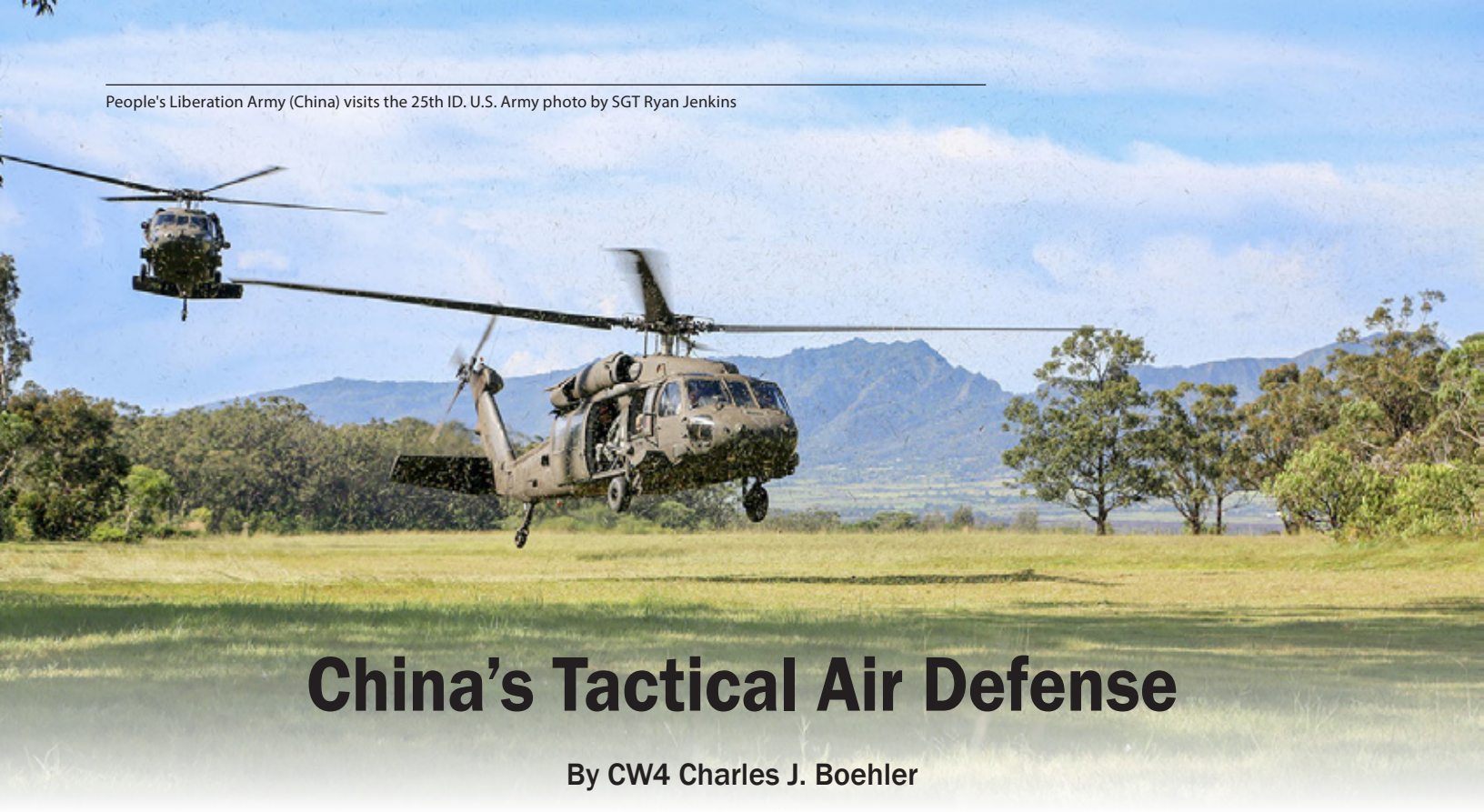

People's Liberation Army (China) visits the 25th ID. U.S. Army photo by SGT Ryan Jenkins

China's Tactical Air Defense

By CW4 Charles J. Boehler

If China is the Army's pacing threat, as the most current U.S. literature suggests, then our knowledge of their doctrine, tactics, and capabilities should be at the forefront of our minds when developing our own procedures and training (U.S. Army Training and Doctrine Command G-2, 2021a, p. 3; U.S. Army Training and Doctrine Command G-2, 2021b, p. 10).

I enlisted toward the end of the Cold War, and it was clear from Day 1 who we (the U.S. Military) were training to encounter (the Soviets, just in case anyone wasn't sure). This same mindset should start making its way into our military culture toward present-day China.

In that vein, there are several outlets available to enable such training, such as Army Techniques Publication 7-100.3, "Chinese Tactics," (Department of the Army [DA], 2021), *The Red Diamond* newsletter–December 2021 Special Edition (U.S. Army Training and Doctrine Command G-2, 2021a, p. 3; U.S. Army Training and Doctrine Command G-2, 2021b, p. 10), the *TRADOC G-2 Newsletter*, threat posters, playing cards, and more (U.S. Army Training and Doctrine Command G-2, n.d.-e), the U.S. Air Force's (USAF) China Aerospace Studies Institute (Air University, n.d.), and the online Worldwide Equipment Guide (U.S. Army Training and Doctrine Command G-2, n.d.-g). This article will focus on the People's Liberation Army's (PLA) land-based service, the Chinese People's Liberation Army–Army's (PLAA) air defense at the maneuver echelons.

Unlike the U.S., China's longer-range air defense systems (often categorized as medium- and long-range) are operated by the People's Liberation Army Air Force (PLAAF) and comprise an Integrated Air Defense System (IADS) designed to counter fixed-wing and missile threats (DA, 2021, p. C-3). The PLA is highly political and does not enjoy the same level of "jointness" as the U.S. military does. However, this is a recognized flaw and they are making strides to overcome it (Defense Intelligence Agency, 2019, p. 6). Part of this effort has been the integration of the strategic and tactical air defenses through a digital IADS and changes in command and control. In the past, the air battle was tracked manually in the PLAA, and most systems relied on optical sights. Fairly recent developments in this area have sought to overcome this through modernization with weapons able to utilize digital IADS nodes and the delegation of weapons release to the battalion and battery level (Solen, 2021, para. 3).

Another major change is the addition of an electronic warfare (EW) battalion to the PLAA's air defense brigades. Through changes in doctrine and training, this addition has greatly increased the lethality of the IADS. Search and tracking radars, along with passive detection systems, are thought to be able to be accessed by this network. These EW capabilities not only include passive detection of emitters but jamming of radar and communication systems as well. The EW capabilities of the PLAA are significant and play a major role in the lethality of air defense (Solen, 2021, para. 2).

Before discussing individual air defense systems, a quick primer on what constitutes an IADS is in order. It's easy to simply think of these different systems on an individual basis, and frankly, if you're a pilot and have a missile lobbed at you, that's still what it comes down to in its most basic form. But having in-depth knowledge of how an IADS functions can play a key role in offensive and defensive tactics vs. threat systems.

Figure 1. PGZ-04A self-propelled anti-aircraft gun missile system (Army Recognition, 2010).

Modern technology has transformed how an IADS functions. While the term has existed for several decades, a modern IADS has some fundamental differences in function. Most notably are the digital networks in use now; how many sensors, both active and passive, are used; and the resiliency of the IADS itself. In broad terms, an 80s-era IADS could be more or less disabled with the destruction of the one or few search radars in the network. A modern IADS can quickly compensate for the loss of a system or systems and continue to function (Mattes, 2019, pg. 7). Tactics can range from relying almost exclusively on passive sensors for initial detection to a systematic and rapid turning on and off of search and tracking radars (Kopp, 2009). All of this makes the likelihood of completely destroying an IADS during a battle unlikely and should perhaps be approached from the standpoint of enabling localized suppression with all means necessary (artillery, EW, Army Aviation, USAF and U.S. Navy fixed-wing aircraft, among others) as more realistic (Mattes, 2019, p. 8).[1]

In the next few paragraphs, I've outlined a concise overview of the most modern systems in the PLAA's air defense inventory.

Starting at the lower end of the layer are the PLAA's Man-Portable Air Defense Systems (MANPADS), which are among the most dangerous in the world. As with all of China's military equipment, the model designation-naming convention can be confusing. The FN-16, a variant of the Fei Nu-6, is among China's most modern heat-seeking MANPADS with all-aspect infrared (IR) and ultraviolet homing, making it resistant to countermeasures (U.S. Army Training and Doctrine Command G-2, n.d.-a; Jackman, 2011, p. 31). Another system, the QW-3, is unique among most MANPADS in that it is laser-guided and **not** heat-seeking (Defense Studies, 2009, para. 2). With a much larger launcher mechanism and missile, in my opinion, the QW-3 is likely fired from a mono or bipod and takes a team of two or three to carry and set up all components, similar to the Swedish RBS70.

In the gun category, the PLAA employs a wide range of systems. The vast majority of these are towed and range from 14.5 mm to 37 mm. The two main systems of concern are the Type 87 2 x 25 mm and PG-99 2 x 35 mm towed guns, both of which are normally seen with only optical sights; however, the PG-99 can take advantage of aiming from an optional fire-control radar with laser range finder (United States Army Training and Doctrine Command G-2, n.d.-f). It can be easy to underestimate less-sophisticated systems such as these; however, the sheer density of large-caliber guns in the PLAA's arsenal and difficulty in detecting them make this a category that can't be ignored.

The PGZ-04A, seen in Figure 1, is an armored tracked system consisting of 4 x 25 mm guns and 4 x FN-6 IR homing missiles. This system is an upgrade to the older PGZ95 and is mounted on a tracked armored chassis. It has a laser rangefinder, day optical sight, IR sight, and a search radar. The radar can detect low-flying aircraft out to at least 11 km; the guns have a combined rate of fire up to 3,200 rounds per minute and have an effective range of 2,500 meters. A battery of PGZ-04As consists of six vehicles, along with associated support vehicles, including a command vehicle that can communicate digitally with the battery's vehicles up to 5 km (WeaponSystems.net, 2022b).

The PGZ-09 (Figure 2) is visually similar, if not mechanically, to the German Flakpanzer Gepard and mounts 2 x 35 mm cannons on a tracked armored chassis (WeaponSystems.net, 2022a).

Figure 2. PGZ-09 (WeaponSystems.net, 2022b).

"Reportedly, two or four IR-guided MANPADS can be fitted" (WeaponSystems, 2022b). The PGZ-09 has both search and tracking radars, optical sight, thermal sight, laser range finder, and digital IADS datalink. The guns have a maximum rate of fire of 1,100 rounds per minute with a maximum range of 4,000 m (U.S. Army Training and Doctrine Command G-2, n.d.-d).

A reverse-engineered, but modernized version of the French Crotale, the HQ-7B Transporter Erector Launcher and Radar (TELAR) vehicle, has four radar-guided missiles on a wheeled armored vehicle (U.S. Army Training and Doctrine Command G-2, n.d.b). As is typical of radar-guided

[1] An excellent article written by USAF Maj., Peter Mattes, on modern IADS can be found at the USAF's Mitchell Institute at https://www.airuniversity.af.edu/CASI/Display/Article/2528161/pla-army-air-defense-units-improve-effectiveness-resiliency-and-jointness/

Figure 3. HQ-7B (U. S. Army Training and Doctrine Command G-2, n.d.-b).

missiles, they are significantly larger than MANPADS with a much longer range, up to 15 km in this case. The E band search radar can detect targets from up to 18.5 km. The search radar is mounted on a separate vehicle with a modern Active Electronically Scanned Array, or AESA, type operating in the S band. A typical battery consists of three TELAR vehicles with one acquisition radar (Kopp & Andrew, 2010). Figure 3 illustrates the HQ-7B.

Another copy, this time of the Russian SA-15, the HQ-17A surface-to-air missile system has been updated with modern components. Like the SA-15, the HQ-17A incorporates both search and tracking radars along with the missiles on the same vehicle, although the vehicle in this case is wheeled instead of tracked, as shown in Figure 4. There are pictures of the SA-15 in Chinese military service on the internet labeled as the HQ-17A on a tracked vehicle; however, these are likely the examples purchased by the Chinese and then reverse-engineered to a wheeled version (Military Today, 2022). The search radar is in the E/F band with a maximum detection range of 25 km and tracking radar in the G/H band (U.S. Army Training and Doctrine Command G-2, n.d.-c). The HQ-17A vehicle carries a total of 16 missiles, which have a maximum range of 15 km (Military Today, 2022, para. 4; U.S. Army Training and Doctrine Command G-2, n.d.-c).

While it would be easy to look at many, if not all, of the above systems and scoff at the notion that they're copies of other countries' designs, this ignores the fact that they have modernized them on their own. The PLAA's recognition of the importance of digitally integrating these systems into an IADS and even extending this to the PLAF's IADS, as well as incorporating significant EW capabilities, makes them very capable of providing first-rate air defense. One only needs to think back at how many of the weapons systems that the Soviet Union produced in the late 40s and early 50s were copies of Western designs. They later leveraged what they learned into building their own highly capable systems.

Figure 4. HQ-17A (Military Today, 2022).

The intent of this article is not to be alarmist, simply informative. In that vein, it's important to note some shortcomings in the PLA. Earlier, I noted that joint operations are habitually difficult for the PLA. While the integration of IADS between PLAA and the PLAAF are recognized, this doesn't mean it's gone off without a hitch. It's highly likely that the long- and intermediate-range air defense systems are having trouble "talking" to the shorter-range defenses, not to mention possible territorial battles between the branches. The Chinese military is deeply rooted in corruption, which will make meaningful reforms that much more difficult (Sacks, 2021). Personnel buying or bribing their way to promotion is the norm rather than the exception. The PLAA also does not have a professional noncommissioned officer corps. There are many demographic and economic challenges currently facing China, which will no doubt affect the PLA. The more we understand both the personnel and hardware capabilities and limitations of our adversaries, the better our chances are at succeeding. An important thing to remember when facing any adversary is that you're countering people, not just weapons systems.

There are several hardware and training implications for us in Army Aviation. Besides the training resources mentioned at the beginning of this article, there are some other means to tailor aircrew training. Flight simulators, both individual and collective, are a great way to train most any air defense threat. There are some commercially available desktop computer programs and simulators that are a good bridge to use from the classroom to the simulator or aircraft. Updating our training materials and techniques is in order to reflect where the majority of our focus should be.

Biography:

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PLA officials board an Army Black Hawk following a visit to the 25th ID's Lightning Academy. U.S. Army photo by SGT Ryan Jenkins

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1st Air Cavalry Brigade in Poland. U.S. Army photo by SPC Hubert Delany

The Air Cavalry Leaders Course Model—Structural Changes in Aviation Professional Military Education

By MAJ Jeffrey R. Hayes

A year ago, as the course manager for the Air Cavalry Leaders Course (ACLC), I wrote an article for *Aviation Digest* in which I offered observations of that particular course's strengths. I analyzed these attributes because several leaders had expressed a desire to make other professional military education (PME) more "ACLC-like." Discussing this concept with the ACLC cadre and students, we theorized that six core strengths set ACLC apart as distinct from other courses. This is not to say that ACLC is the only program of instruction (POI) with any of these characteristics, but that it encompasses all six to such a high degree that it is unique among the courses offered at Fort Rucker.

To recap the strengths of ACLC as articulated in the 2021 article, "The Air Cavalry Leaders Course and Aviation Professional Military Education," I theorized that there were six core areas from which ACLC derives its strength and that could be leveraged across other areas of aviation PME. These areas included: a highly selective cadre; specialization of skill sets among instructors; collaboration among students from across a wide spectrum of experiences, ranks, and skill sets; challenge and accountability; course content appropriately tailored to the audience's current sphere of influence; and the opportunity to fight out their plan at the tactical level (Hayes, 2021, pp. 9-10).

As fate would have it, over the last 10 months, the U.S. Army Aviation Center of Excellence (USAACE) and Combined Arms Center have directed an overhaul of Aviation Warrant Officer (WO) PME, as well as instituting major changes to commissioned officer PME at the lieutenant and captain levels, incorporating many of these "ACLC-like" attributes into the full range of professional education. Since most of the aviation force is indeed out in United States Army Forces Command (FORSCOM) or their Army National Guard and Army Reserve home stations, this article is intended to inform the total force of what changes have transpired and how many of the ACLC's major strengths have been brought to bear.

Company A, 1st Battalion, 145th Aviation Regiment is the center of gravity for Aviation Officer PME. Within it are the ACLC; Aviation Captains Career Course (AVC3); Advanced War-fighting Skills (AWS) Course (which evolved from, but is vastly different than, the legacy Aviation Warrant Officer Advanced Course [AWOAC]); Aviation Pre-Command Course; and fielding this year, the Aviation Warrant Officer Intermediate Level Education Follow-on (AWOILE-FO) Course (USAACE and Fort Rucker, 2022a). While this is not an exhaustive list (the company is actually responsible for an additional 3x POIs as well), these courses represent the most impactful touchpoints for leaders across the branch.

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The Assignment Interactive Module, or AIM, 2.0 marketplace,[1] has had a profound and positive effect at USAACE and on A Company in particular. Over the course of several manning cycles, the applicant-to-requisition ratio has continued to increase. In some instances there have been as many as 15–20 applicants vying for just 2–3 available openings. Those applicants draw from some of the very highest quality officers and WOs in the total force and have become highly competitive. Far from the old mentality of "Mother Rucker" being a place to take a knee between deployments, the calling for instructors to teach (and in many ways, innovate) aviation tactics in large-scale combat operations (LSCO) has triggered an exciting and fundamental shift in how aviators view the opportunity to instruct PME. There has been a commensurate improvement in the quality of platform instruction over the course of the last year, and this will continue to improve as opportunities become even more prized. The instructors are knowledgeable, passionate, and excited to be at the cutting edge of teaching and developing aviation tactics, techniques, and procedures, and doctrine.

The need to cross-level subject matter experts across multiple POIs, initially borne out of manpower shortfalls, has become one of the most positive and efficient examples of maximizing the use of talent on post. Aviation maintenance classes are still facilitated by small group leaders (SGLs) but are taught by the branch's foremost aviation maintenance experts from the Aviation Maintenance Officer Course. Aviation Captains Career Course SGLs must first graduate from and then qualify as evaluators for the ACLC, mastering constrained mission planning and mirroring a similar and highly successful policy enacted at the Aviation Noncommissioned Academy a year earlier.

[1]"Assignment Interactive Module 2.0 (AIM 2) is a web based information system designed to enhance the effectiveness and efficiency of the officer management process, and facilitate communication between Soldiers (e.g., officers & warrant officers with talents), Units (e.g., commanders with requirements) and the Officer Personnel Management Directorate (OPMD)" (U.S. Army Human Resources Command, 2017) https://www.hrc.army.mil/site/assets/directorate/OPMD/What%20is%20AIM%202.pdf

During the first week of AWS, which is geared toward an audience of pilot-in-command (PIC) Chief Warrant Officer 2 (CW2s), AVC3 cadre conduct a brief orientation on Army doctrinal hierarchy, friendly force structure, and "wave tops" overview of the military decision making process (MDMP)—topics at which they excel. The AWS cadre then proceed to teach these company-grade WOs how to read an operations order and apply it to company-level troop leading procedures using aviation mission planning systems (AMPS). For the remaining common core topics, both in AWS as well as AVC3, by utilizing the 'round robin' approach, our instructors can specialize in niche skill sets, enhancing the overall experience (USAACE and Fort Rucker, 2022b).

Along similar lines with instructor mix, class mix is one of the most critical aspects of enhancing the PME learning process. A year ago, legacy AWOAC had two entirely different programs: one solely for active, and another much-abbreviated version for Reserve and National Guard WOs. Aviation Captains Career Course students with relatively homogenous experiences and roughly 3–4 years of aviation service each, took turns in various staff roles during their exercises. A student could be asked to fill the role of a battalion standardization pilot or master gunner—roles that are critical in the MDMP but for which they were not well suited. Aviation Basic Officer Leaders Course (BOLC)/WO Basic Course (WOBC) students were expected to conduct basic troop leading procedures in the Aviation Leadership Exercise (ALE), yet despite the best efforts of the BOLC/WOBC cadre to teach and supervise these massive groups of flight school students, these future aviators lacked any practical experience in application of aviation combat power. As a result, they were rarely able to execute effectively in the time available.

In a radical shift, these programs all now deliberately interlock to maximize relationships and mirror, to the extent possible, the structure of FORSCOM units. Advanced warfighting skills is now a single, all-encompassing 4-week POI common to all components (USAACE and Fort Rucker, 2022b). Aviation Captain's Career Course students "moonlight" in AWS and ALE as air mission commanders and company commanders. This forces them to become well-versed in the material that they are learning and to also be able to reinforce and apply those lessons in the future platoon leaders and PICs they will soon be commanding in real life. Advanced warfighting skills cadre (CW4/CW5s) sit in AVC3 briefs and provide input from the actual Senior WO perspective to help shape commissioned officer thought processes and orders, drawing attention to details that might be missed by novice planners. As AWOILE-FO comes online in the current year (USAACE and Fort Rucker, 2021), CW4 aviation students will monitor, evaluate, and assess these various collaborations using the same task & evaluation outlines that are required to assess training operations in FORSCOM but for which our Senior Chief WOs have not traditionally been formally prepared through legacy PME.

The desired end state is for AVC3 captains to receive a LSCO division operations order, rapidly and successfully conduct MDMP at the appropriate levels, and issue orders to AWS and ALE students (either separately or in conjunction with one another). Advanced warfighting skills and ALE students will break into company planning cells, executing troop leading procedures to transform the operations order into a tactical scheme of maneuver for implementation at the company level and utilizing the same systems and processes that they will actually have available in their FORSCOM units. Commissioned and WOs still focus on their specific niche areas of responsibility, but they are sharpened and reinforced by each other and relying on students to execute in a training environment the precise roles they will execute in FORSCOM. The mutual understanding, trust, and relationships built across ranks and experience cannot be overstated.

Accountability and challenge have also appreciably increased across PME. Shifting away from the collaborative "open book, open team" approach to evaluation, AVC3 students are now

MG Francis, Commanding General, USAACE and Fort Rucker, in-briefs AWS. U.S. Army photo courtesy of AWS

required to conduct troop leading procedures individually. They receive a completed battalion order and build all final practicum products independently, in the classroom, under controlled time constraints, and responsible for producing the company order of their choosing as the sole planner and briefer. Those who complain that "this is unrealistic" are missing the point: By proving that each student is capable of conducting time-constrained planning alone, they are ensuring that they are ready to lead any one of those processes, regardless of the strength or weakness of the section they must lead. This is precisely the point of the exercise—the difference between "student" and "most experienced planner" can sometimes be only a permanent change of station. Advanced warfighting skills students receive a completed battalion operations order and conduct troop leading procedures, utilizing AMPS to produce tactically feasible missions at the company level. While the publications remain available to AWS students during written tests in an effort to force them to dig into the source manuals consistently, the practical exercises and hands-on portions of AMPS employment and management facilitate mastery of the fundamentals and application under stress.

In addition to the practical applications and tests referenced above, the POIs have removed all reference to legacy counterinsurgency concepts, focusing wholly on LSCO doctrine and concepts, reinforcing correct definitions and terminology, and forcing aviators to immerse themselves in the world of combined arms maneuver. Focusing this concept to the appropriate level, lessons are tailored for students precisely where they are in their careers today, not some arbitrary date in the distant future. Advanced warfighting skills give the CW2 new PICs a broad orientation to doctrinal execution of LSCO at the division/brigade level for context then rapidly immerses the class in Army Aviation core competencies at the company level in support of the division fight (USAACE and Fort Rucker, 2022b). The AVC3 provides detailed instruction to ensure mid-grade captains are equally trained as experts in LSCO combined arms maneuver, as future company commanders, and as proficient staff officers. Lessons that do not have relevance to the students' immediate future as combat arms leaders have been entirely removed—battles are not won by the cleanest memorandum for record or most inspiring essay.

As proven at ACLC and combat training centers, the best way to increase LSCO competence is to train multiple repetitions to standard and to overcome realistic friction under stress. Advanced warfighting skills accomplishes this through a 2-week train up of individual aviation core competencies using current mission planning systems on the exact same Getac (rugged tablets with docking stations) hardware and software resident in FORSCOM line companies and building to one iteration each of deliberate and hasty company mission planning in support of a virtual division main effort. These plans are then flown virtually in the Reconfigurable Collective Training Devices[2] by the students, forcing them to synchronize efforts across multiple aviation units conducting complementary missions on a contested battlefield in real time. A student-led after-action review reveals to students exactly what details matter most and which are too often "hand waved" during mission planning—details that are never so apparent as when actually flying the mission. The AVC3 takes this concept a step further, receiving many weeks of instruction and practice in MDMP so that students are able to quickly and efficiently develop aviation brigade and battalion operations orders from a division order, using analog products as well as the newly fielded Command Post Computing Environment system.[3] Just as with AWS, student captains not

[2]More information on this topic may be found at https://www.l3harris.com/sites/default/files/2020-08/L3Harris_Collateral_FSXXI_SellSheet_1119v2.pdf

[3]More information on this topic may be found at https://asc.army.mil/web/portfolio-item/command-post-computing-environment-cpce/

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only plan but fight and battle track the products in virtual and constructive simulations with mentors, cadre, and guest instructors providing feedback. The ability to test the plan in macro allows for improving major processes and increasing speed, while the test in micro (individual cockpits) sharpens the level of detail required in each repetition. The overall effect of both AWS and AVC3 culminating exercises is a much more lethal and agile aviation officer across the board—and for what it's worth—a lot more fun actually fighting the products rather than simply briefing them.

While not an exhaustive list, these improvements to aviation PME represent the major course corrections enacted in the last 12 months, mostly derived from the successes encountered at the ACLC and elsewhere (Figure). Ultimately, this is only the beginning of innovative changes to aviation officer training and education. The pivot to LSCO has never been more important, and capturing leaders at the company command and PIC level is the most effective way to affect that change rapidly across the entire Aviation Enterprise. Combined with other efforts like the Aviation Tactics Instructor Course, Unit Trainer/Evaluator initiative, and expansion of throughput in the ACLC, Army Aviation has never had a brighter future. Our students arrive with an expectation of realistic, demanding conditions that build toward lethality, survivability, and flexibility on the modern battlefield against a near-peer threat, and we are meeting their expectations as never before. If you haven't touched base with Fort Rucker and PME in more than a year, it is worth your time talking with any of our recent graduates and getting their perspective.[4] To coin a phrase, "this isn't your daddy's PME." Forge the Future; Above the Best!

Biography:

MAJ Jeffrey Hayes is the Commander of A/145th Aviation at Fort Rucker, Alabama, which includes AVC3 (Active and Reserve), AWS/AWOAC, AWOILE-FO, Aviation PCC, AMSOC, AMOC, ATASMTC, and ACLC. He previously served as the Course Director for the Air Cavalry Leaders Course and has multiple deployments as an OH-58D and AH-64D Aviator.

[4]Those interested in learning more about improvements to aviation PME at Fort Rucker can contact the AWS Operations Officer at 334-255-9395 for more information. Additionally, your combat aviation brigade (CAB) command Chief WO could assist, as there are currently AWS graduates in every CAB.

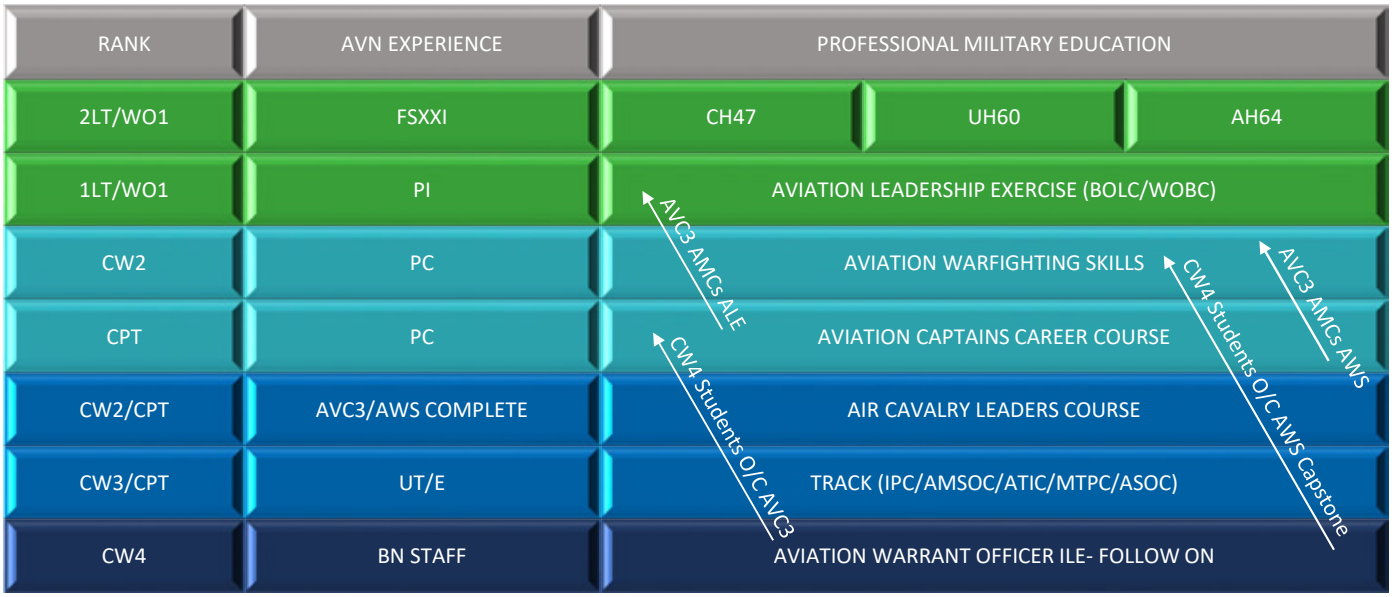

Figure. Possible concept of integrated PME and functional skills training (Hayes, 2022).

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3-6 Aviation Cavalry Squadron Top Crew. U.S. Army photo by SGT Ezra Camarena

Leadership, Strategic Thinking, and Tribalism

By CW5 Leonard S. Momeny and CW5 James E. Steddum (Ret.)

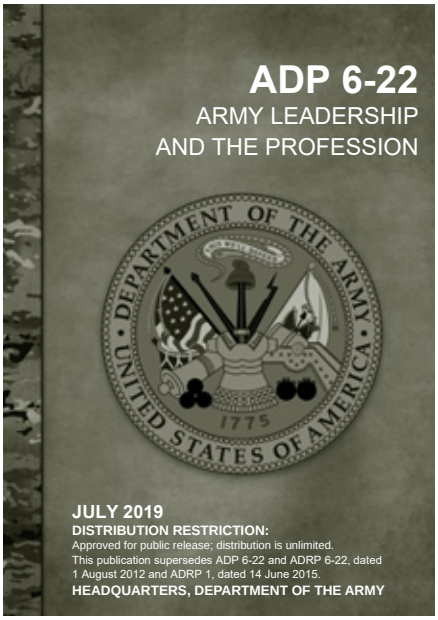
Senior Warrant Officers of the United States Army stand ready to provide an ideal source of supplemental insight toward the support of strategic leadership. More importantly, Senior Warrant Officers are uniquely positioned to leverage influence for the betterment of the Army's pursuit of a more ideal *Mission Command Philosophy*. It is not a stretch to say that others would not immediately consider the role of the U.S. Army Warrant Officer as being inclusive of such activity. This oversight, and the way the Army-rank cohorts train, creates a natural tendency toward organizational tribalism—a scenario when people with similar backgrounds or cultures focus on connection with one another rather than seeking intentional diversity of thought and action (Driss, 2020). While the Army strives for leaders to seek diversity of team and thought, a concerted effort must be made to refine and better cultivate utilization of the Warrant Officer cohort's unique ability to exercise competency-based strategic thinking through both conventional and unconventional means at all echelons. After all, the Senior Warrant Officer's experience-centric education, professional relationships, and unique areas of expertise can positively influence overall capacity for a more improved sense of Mission Command, regardless of the operating environment.

Strategic Leadership

The role of leadership, both direct and strategic, within the United States Army has always been to provide Soldiers—and by extension, organizations—with the necessary purpose, direction, and motivation required to fight and win our nation's wars. Strategic leadership is quite unique in that it involves strategic thinking, including critical, creative, and systems thinking with historical context, learning mindset, and ability to gather and synthesize comprehensive information. Typically, this sort of leadership is thought of as primarily originating with regular commissioned officers specifically serving in positions of direct influence and empowered with authority. Senior Warrant Officers typically differ from their officer counterparts as they are primarily viewed as technical experts and as such, can be unintentionally overlooked during higher-level decision-making. However, it is the Army Senior Warrant Officer that often surprises commanders and others through excellent, albeit sometimes unknowingly, high-end application of strategic thinking as agile, adaptive, and innovative leaders with a deep understanding of how systems interrelate across the Army Enterprise during all operational scenarios.

If **"leadership is the activity of influencing people by providing purpose, direction, and motivation to accomplish the mission and improve the organization,"** it only differs with strategic leadership in that the latter is more holistic in nature

(Department of the Army, 2019b, p. 1-13). That is not to say that direct leadership is not deliberate; on the contrary, it is just that strategic leadership applies different cognitive understanding of temporal spacing with respect to timing, action, and refined consideration of whom to influence rather than trying to influence to the lowest level. Strategic leaders must be more institutionally minded, and this sort of thoughtfulness extends to both subordinate and higher organizations, be that a specific branch, major command, or the Army as a whole.



Leadership and leading in the Army is often thought to be centralized to the current unit and its associated needs. The essence of strategic leadership goes far beyond this, as the leader adopts thinking that considers what the organization will need, not just now, but in the future. If it is not within the capacity of the current organizational structure to solve their dilemma, then the strategic leader must artfully and ethically extend their influence beyond the confines of their assigned organization and beyond the limitations of their chain of command. There is a reason this type of communication skill is discussed on the Field Grade Officer's Evaluation Report, formally known as Department of the Army Form 67-10-2, "Field Grade Plate (04-05; CW3-CW5) Officer Evaluation Report," as the Army expects the field grade leader to begin to develop their abilities with respect to strategic leadership (Department of the Army, 2019a). To accomplish influence in support of leadership that extends beyond the current organization, a leader must be agile, adaptive, innovative, and communicate well. More important than this, they must elicit a keen sense of trust.

Strategic Leadership Characteristics of the Senior Warrant Officer

The leader who embraces strategic leadership does so through an evolution in cognitive ability, thus transforming themselves into someone who considers their leadership environment more deliberately, thereby extending their influence well beyond their established field (Momeny & Gourgues, 2019). The Senior Warrant Officer is uniquely equipped for such challenges, for the second a Warrant Officer pins the rank of Warrant Officer One, they are pressed into a realm of expectations that typically lacks the ability to apply direct influence or the capability to leverage power toward influence as based upon understood authority (Northouse, 2019, p. 9). Instead, the Warrant Officer gains influence (leads) through competency-based characteristics that create the appearance of agility, adoptability, and innovation. These tacticians and technicians accomplish this feat through rigorous acquisition of knowledge and attention to published regulation and ethical creation of systems that work seamlessly within the confines of the Warrant Officer Education System and the organizational training domain.

Even at the lowest level of assignment, such activity is perceived as strategic, for the Warrant Officer is assimilating with the greater organizational and institutional vehicles of action, such as "directives, policies, programs," and other aspects, and in doing so they elicit a response of trust and openness with both their leaders and those senior to them (Department of Army, 2019b, p. 1-23). In doing this, the Warrant Officer begins to build a natural human network and create a foundation of experienced-based learning that breeds the very core competencies at the heart of strategic leadership. Yet, when the Warrant Officer finally arrives within the senior ranks, their experience has traversed the ranks and echelons of the greater Army. Such understood and recognized experience allows trust to be attributed and freely exchanged across all ranks and institutions, as Warrant Officers should be understood to both know how the Army runs and how it can do so more efficiently.

Throughout this experiential model of development, the Senior Warrant Officer has extended an understanding of supreme technical competence. This is acquired through the technical management of systems and programs that span the breadth of entire formations across installations and even areas of responsibility. Each time the Senior Warrant Officer ethically applies this skill set to the benefit of both their assigned and external units, they are both exhibiting and fostering a culture of trust and nurturing the character of the greater Army profession and promoting high-performing teams. As mentioned, this is all based on a rigid adherence to a technically correct, systems-based approach to managing the Army's various programs. The real catch is that such action promotes freedom for commanders to embrace a true *Mission Command Philosophy*, specifically one based on trust and influence. For the commander knows that Senior Warrant Officers within their ranks have created efficient systems that demand trust, accuracy, and accountability, thereby limiting the need for what can only be described as perceived unnecessary micromanagement.

Impacts of Tribalism on Strategic Thinking

So, how does tribalism come into play on this discussion of strategic leadership and the Senior Warrant Officer? It is important to note that the choices each member of a collective makes can have a significant impact on the effectiveness of the organization. This is masterfully recognized in the following quote by Lieutenant General Peter Leahy, former Chief of the Australian Army.

"The era of the strategic corporal is here. The soldier of today must possess professional mastery of warfare, but match this with political and media sensitivity" (Liddy, 2005)

The Army acknowledges this truism; however, by its very nature creates tribes in the form of cohorts and as such, definitive rank-based identities are cultivated, dominating understanding of team member potential and establishing unnecessary perceived limitations in thought.

When tribes form, willingly or by organizational structure, the tribes tend to connect primarily with their own members. This mindset is at risk of creating an "us vs. them" perspective within the tribe rather than an "us vs. our adversaries" environment. The tribes then seek to develop themselves and their thoughts in a "silo," seeking shared opinions rather than maintaining a healthy, open dialogue. Organizational tribes are thought to have five stages of development (Logan et al., 2008). Each stage builds until at the end of development, they have broken the silo and have merged as a fully empowered member of the organization. Just before the tribe reaches the final stage of development, it is at the peak of tribalistic competitiveness with the other tribes (Figure).

We believe that the Army Warrant Officer is nearing that peak but sustaining stage four as characterized by a powerful sense of shared values, willingness to share knowledge and collaborate, and competitiveness with other tribes. The nature of the Army and its education system places an unintentional wall from developing specific cohorts further into their potential capacities (in this case, strategic thinkers), thus hindering the eventual realized value of all team members. Even Warrant Officers occasionally struggle to see this potential for strategic thinking within themselves. The potential failing to recognize the value of Senior Warrant Officers as leaders capable of strategic thought removes an asset to the traditional decision-makers and thus, omits any prospective positive impact their insight could have upon the systems-dependent nature of multidomain operations.

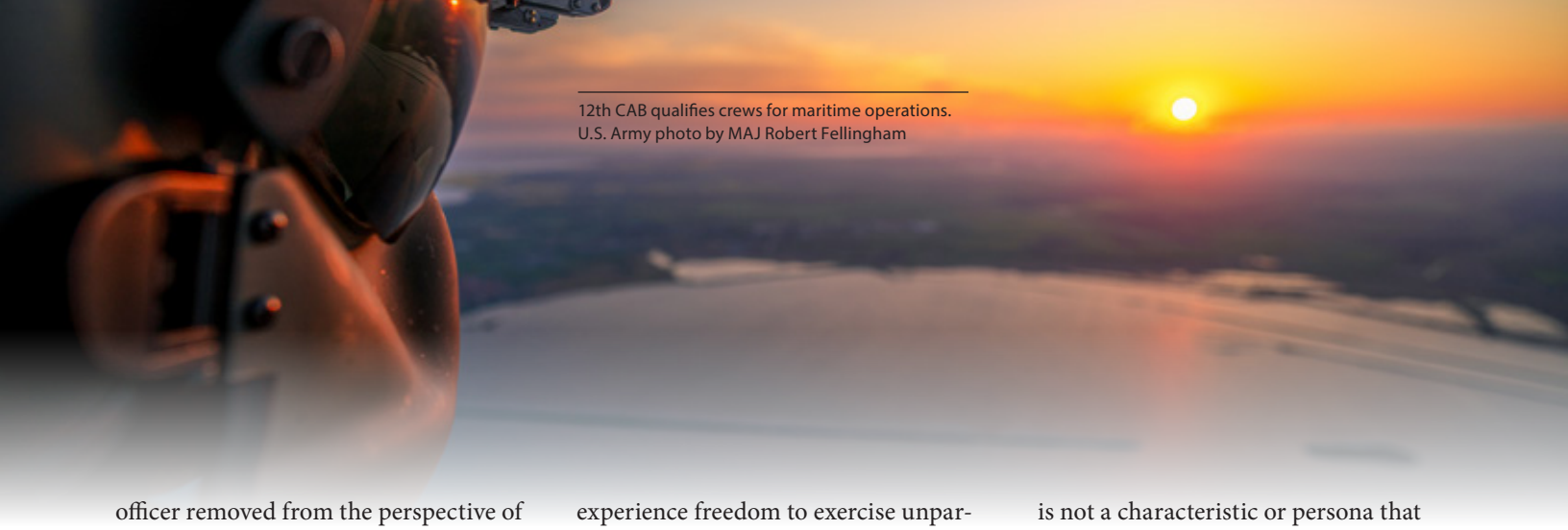
A Branch-Specific Exemplar: Army Aviation

Army Aviation creates a phenomenal environment to both nurture and observe the development of the concepts of experience-based strategic leadership and a developed sense of tribalistic competitiveness. For instance, Senior Aviation Warrant Officers, specifically standardization officers for all aircraft, have a hand in developing governing unit policy, standard operating procedures, and command-specific bulletins. This activity automatically sees the

Stage	%	Behavior	Relationship to people	Language
5	2%	Innocent Wonderment	Team	"Life is great"
4	22%	Tribal Pride	Stable Partnership	"We're great"
3	49%	Lone Warrior	Personal Domination	"I'm great"
2	25%	Apathetic Victim	Separate	"My life sucks"
1	2%	Undermining	Alienated	"Life Sucks"

Figure. Cultural map: The five stages of culture (Logan et al., 2008).

After 25 Years of Service, CW4 Petro conducts his final flight. U.S. Army photo by SGT Michael Wilson



12th CAB qualifies crews for maritime operations.
U.S. Army photo by MAJ Robert Fellingham

officer removed from the perspective of the individual and thrusts them headlong into the business of caring for the actions of an entire organization, albeit very specific actions. The standardization officer may, at times, have to interact at levels that traverse the company, battalion, brigade, branch, and greater Army, specifically its different compos of Guard and Reserve. Later, this Senior Standardization Warrant Officer will be required to serve at assignments (e.g., Directorate of Training and Doctrine or Department of the Army's Management Office AV G3/5/7) that develop doctrine and policy governing a key arm of the Army's successful maneuver capability. That certainly sounds strategic in nature.

The experience that unit commanders and the assigned Soldiers alike have with these Warrant Officers is one that thrives on trust. When the unit commander staff embraces the strategic capabilities of its tribes—in this case, that of the Senior Warrant Officer—the unit more effectively builds trust, cohesion, and effective mission accomplishment as specifically nested with higher level organizations. This crosscutting mindset helps with creating policy, directives, and guiding regulation, ultimately allowing commanders to experience freedom to exercise unparalleled efficiency within overall *Mission Command Philosophy.* The authors are certain that other branches have experienced similar circumstances with Warrant Officers.

Summary

The Senior Warrant Officer is capable of being a competency-based strategic leader. Their influence, while often indirect in nature, is grounded within adherence to existing Army policy, directives, regulations, and innovative strategic leadership capability. Through their experienced-based educational model, they garner trust by the flawless application and technical management of programs of record. This competency creates systems of accountability that generate trust and assist in the overall character development of all assigned Soldiers. In this capacity, the Senior Army Warrant Officer can help create organizational cultures of trust and character that assist the Army in all its future endeavors. Such actions and results indicate that there is nothing quite as subtle, nor quite as effective, as the strategic leadership qualities of the Army's Senior Warrant Officer when empowered by both the commander and the organizational staff. However, this is not a characteristic or persona that must only be recognized by others but also educated upon. Finally, the identity of the Senior Warrant Officer as being a leader capable of strategic thought must be recognized as valid by the cohort and cultivated appropriately through education and mentorship, thereby enhancing perceived roles and application in the current and future fight.

Biographies:

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Task Force Javelin Soldiers provide support in Kuwait. U.S. Army photo by Luis Delgadillo

Transitioning to a Large-Scale Combat Operations Mindset, and the Power of Command Post Exercises

By CPT Jacob M. Conover

America's Army has been at war in a counterinsurgency (COIN) fight for the last 2 decades. The most senior leaders found at the battalion and brigade levels have grown up under the COIN mindset, yet now must transition to a large-scale combat operations (LSCO) focus. The question is, how do we best transition our organization's thinking back to LSCO after all these years? And how do we instill this new mindset into the new up-and-coming leaders within the Army? It is my belief that the best method for transition doesn't require more combat training center (CTC) rotations. Instead, the best method is conducting more regular and cost-effective command post exercises (CPX) focusing on three tenets: personnel, training, and doctrine.

In the last 2 decades, Army Aviation found its role in Afghanistan and Iraq by being a force multiplier in support of a ground force. Aviation units in United States Central Command (CENTCOM) deployments generally split up into task force configurations providing direct support to ground forces with the brigade hierarchy serving more as an administrative support element. The task forces being comprised of all mission design series essentially operated as its own miniature combat aviation brigades (CAB). In CTC rotations, aviation units would again task organize into a task force and deploy at the battalion level in direct support of a ground brigade combat team (BCT).

Combat training center rotations and CENTCOM deployments have instilled the idea in many Soldiers that in a future LSCO fight, they will fight as a task force directly supporting a specific BCT. This is in contrast to the actuality of their CAB deploying as its own maneuver force for their division commander to employ. Combat training center rotations do not train this concept, and the only way you would see this in effect would be division-size exercises, specially focused field training exercises (FTX), or conducting well-thought-out CPX.

The Personnel Tenet

Personnel is a key category when it comes to anything in the Army. The U.S. Army's greatest strength isn't a piece of equipment, it's the American Soldier. The noncommissioned officer (NCO) is a unique role that is not found in most other militaries across the world. With our unique academic structure and training requirements, our corps of NCOs empower our units to have the most trained force down to the team level. With the Army's investment into producing the NCO, it is expected that they emphasize the importance of training and enforce its practice. This is to ensure continued competency and skills. Noncommissioned officers are responsible for preventing the atrophy of Soldiers' basic warfighting skills.

Focusing on personnel is also critical when determining the strength of an organization. The true test of a unit's competency is Soldiers at the lowest level understanding their job, their mission, and their higher headquarters mission. To truly have a well-rounded unit capable of accomplishing its mission set requires competency at all levels. Teaching Soldiers to better understand their individual mission and their unit's mission set requires practice and lots of it. We generally see this used with FTX or CTC rotations but generally limit CPX to main command post or combined operations and intelligence centers. I believe that we can expand the use of CPX outside of the traditional battalion and above staffs and have them utilized down to the section.

The Training Tenet

Train as you fight; fight as you train. This key concept has made its way around the Army and is has undoubtedly found its way in most senior leader books and briefings. It is so prevalent because of the truths behind it.

> **"In no other profession are the penalties for employing untrained personnel so appalling or so irrevocable as in the military"**
> **–GEN Douglas MacArthur, 1933**

The importance of training also requires the importance of proper training. Retired General Martin Dempsey, former Commanding General of the U.S. Army Training and Doctrine Command, noted, "It's not practice that makes perfect; rather, it's perfect practice that makes perfect. It is, after all, the seemingly small disciplines and commitment to high standards that makes us who we are and binds us together as a force, an Army, in peace and in war" (Dempsey, 2009).

This then spurs the question, have we adapted our training to be the perfect training for returning to a LSCO fight?

It is my belief that to get to the perfect practice level of training for our future fights, we need to conduct more CPs at the company, battalion, and brigade levels. It is here that you can simulate conducting a LSCO fight as that unit's key part in the CAB's larger role. It is in this environment where your NCOs and officers can train collectively and learn from their mistakes without damages or fatal errors. Unlike restrictions that you face in FTX and CTC rotations, in CPX, you have the flexibility to simulate content to a larger scale.

To be able to maximize the output of CPX, the inputs in their development should be well-thought-out systems to attempt to lead decision making toward certain outcomes. Some examples of these outcomes are: Focusing on deep area attacks, movements to contact, proper screen utilization, air assault flight paths, etc. This promotes critical thinking and using proper methods. It also allows for battalion and brigade staffs to exercise battle drills and build in repletion with responses to high-profile events such as destroyed aircraft in direct fire of a tactical assembly area or convoy mishaps.

The Doctrine Tenet

Doctrine provides you with the playbook for how the fight should be conducted. Learning the doctrine is critical for Soldiers at all levels. Leaders must emphasize the importance of learning their associated publications to their subordinates. There has always been a counterpoint to doctrine where many state that there is a strength in not practicing it. A famous Soviet observation during the Cold War that has circulated regarding World War II (WWII) tactics proclaims, "A serious problem in planning against American doctrine is that the Americans do not read their manuals, nor do they feel any obligation to follow their doctrine" (Leonard, 2017). Though pretty humorous, this quote is not an accurate reflection of what doctrine typically entails. The true purpose of doctrine is to give guidelines and suggested responses. It is not scripted responses to anything and is designed, in part, to give flexibility to commanders when making decisions.

The development of doctrine to match concepts for future wars is also a critical requirement. Currently, the Army is

Army paratroopers board a Chinook helicopter in Afghanistan. U.S. Army photo by CPT Brian Harris

playing catch up in correcting shortfalls across publications that developed after nearly 2 decades in a COIN-focused environment. In recent years, changes to the 2020 Field Manual (FM) 3-04, "Army Aviation," and the 2017 FM 3-0, "Operations," have updated the focus and depth of the modern operational environments, along with work in unmanned aircraft systems integration.

According to a 2021 Mission Command Center of Excellence Public Affairs article, "Six retired general officers, including one former U.S. Army Combined Arms Center commanding general, are working with the Combined Arms Doctrine Directorate to shape and refine the upcoming revision to Field Manual 3-0, "Operations"… The 'new' FM 3-0 is slated for publication June 14, 2022, in conjunction with next year's Army Birthday" (Stenson, 2021).[1] It is critical for the Army to continue to update these publications, ensuring that the proper playbooks are distributed to the force. Luckily, the force can help. The Army has systems in place for service members to be able to submit recommendations for changes and additions through the United States Army Combined Arms Center website.[2] These systems have seen positive results. Leaders should emphasize the importance of sharing information and lessons learned.

Together, when you join the principles of empowering personnel, entrusting your junior leaders to train and prepare their peers and subordinates, and following doctrine to learn techniques for succeeding against a LSCO threat, our force comes out stronger. Following these key tenets and pulling the strengths from others to develop training plans in the form of CPX to target-train specific scenarios can greatly increase our force's understandings of a LSCO environment, how we operate, and the efficiency in which we execute battle drills. It is an extremely cost-effective training scenario with minimal real-world risk to the force.

[1]Ms. Randi Stenson, Public Affairs Officer at Fort Leavenworth, Kansas communicated that "the launch of FM 3-0 will be delayed, likely to this fall" (Randi Stenson, personal communication, June 7, 2022).

[2]Site located at https://usacac.army.mil/

Biography:

CPT Jake Conover is currently a BOLC instructor in D/1-145th Aviation at Fort Rucker, Alabama. He previously served as a Brigade assistant operations officer in the 1st Armored Division Combat Aviation Brigade. He has 2 combat deployments to Afghanistan. He joined the Army in 2010 as a geospatial intelligence analyst, and is now an aviation officer qualified on the UH-60M. CPT Conover is a graduate from the Arizona State University ROTC program.

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U.S. Soldiers conduct aerial gunnery training at Grafenwoehr Training Area, Germany. U.S. Army photo by Kevin Payne

Utah National Guard's Advanced Aviation Tactics Event Bridges the Gap

By CW5 Jared S. Jones, in collaboration with CW5 Timothy J. Brundage and CW5 Daniel L. York

Flyover along the Wasach Front over Salt Lake City, Utah. Photo credited to Skip Robinson and the Utah National Guard

By now, we imagine most reading this are familiar with some of the big changes coming to Army Aviation—to include what is currently known as ATIC: The Aviation Tactics Instructor Course. The Aviation Tactics Instructor Course is revamping the traditional Instructor Pilot Courses and will be a 5-phased training course that includes in-depth mission planning, single and multiship scenarios (including mixed mission design series), and a focus on tactics throughout the course, including air-to-air. The point of this article is not to delve into those coming changes, but to provide a "bridge the gap" between now and the onset of ATIC.

Recently, the Utah Army National Guard hosted an advanced aviation tactics event known as "Snow Flag." This was a 1-week event, academically and mission planning driven, with some simulator training–including the aviation combined arms tactical trainer (AVCATT) and Longbow crew trainer (LCT). The simulators were used to give the trainers a chance to practice aviation mission survivability (AMS) tasks after the academic instruction. Previously, the U.S. Army Aviation Center of Excellence (USAACE) and National Guard Bureau (NGB) have hosted other train-the-trainer events, and these venues have been great opportunities to update the force with changes to Army Aviation. Units across all components (COMPOs)—Active Duty, National Guard, and Reserves—bring their own strengths and unique flavor. Cross-pollinating COMPOs will make any event that much better.

The initial objective of Snow Flag was to provide a program of instruction for the new AMS 2800 task requirements and in doing so, train the trainers. Event attendees were primarily senior aviation mission survivability officers (AMSOs) and instructor pilots from across the force. The event grew in scope to include fused mission planning integration (to include the U.S. Air Force's 'Improved Many-on-Many' [IMOM] software; the Office of Naval Intelligence [ONI]-created SAFE-T and SEAT applications), as well as provide combined and joint capability briefs

Snow Flag participants pose for a group photo. Photo credited to the Utah National Guard

relevant to Army Aviation. What the venue finally graduated into was a multi-COMPO graduate-level aviation tactics event with joint integration and classified capability briefs showing how U.S. Army Aviation can be more viable in a large-scale combat operation (LSCO).

What we propose and challenge the force, across all COMPOs, is for states and combat aviation brigades to host similar events—leveraging local assets to give your venue its own unique flavor. By reaching out to other units (not just Army but across all branches of the Department of Defense [DoD])—you will also make connections that you can leverage down the road. For example, the Utah Guard now has an ongoing relationship with our local F-35 Reserve unit and are cross training our S-2 and AMSOs with their intelligence section.

CW5 Jones has highlighted some of the behind-the-scene efforts that went into making Snow Flag possible:

- An event like this takes a minimum of 2 months to properly plan; I planned much of this as the state AMSO, but leaned heavily on our four AASF (Army Aviation Support Facility) full-time AMSOs–we spent an average of 10 hours a week actively putting the event together. This was also a collaborative effort including NGB and USAACE (specifically, the Aviation Mission Survivability Branch and the Directorate of Evaluation and Standardization) and would not have been what it was without a lot of help from several experts who directly supported and participated in Snow Flag.
- I briefed the chain of command and state leadership on our plan. Working with the Director of Aviation & Safety and state G-3, we were able to secure funds to provide cost of travel, per diem for most of our instructors (for those coming in from out of state). We leveraged in-state assets (as described below) as much as possible to keep costs low, while also fostering and improving integration of combined and joint units.
- Participation from numerous combined and joint assets, including the 160th Special Operations Aviation Regiment (Airborne), as well as a representative from Skunk Works[1] and the Office of the Secretary of Defense, who placed an emphasis on Airpower Strategy and ONI. Other local instructors were leveraged from in-state including: 19th Special Forces, 65th Field Artillery Brigade, 151st Air Refueling Wing, F-35 Reserve Unit from Hill Air Force Base (466th Fighter Squadron), and industry partners who briefed Next Gen weapons. Total participation included 25 personnel for Instructors/White Cell and ~ 75 participants.
- For this event, we utilized a letter of instruction/welcome letter signed by our State Aviation Officer (traditionally an O-6), developed a robust 5-day course syllabus,

[1] "Skunk Works or Lockheed Martin's Advanced Development Programs (ADP), formerly called Lockheed Advanced Development Projects. It is responsible for a number of aircraft designs, including the U-2, the Lockheed SR-71 Blackbird, the Lockheed F-117 Nighthawk, Lockheed Martin F-22 Raptor, and the Lockheed Martin F-35 Lightning II, which are used in the air forces of several countries" (Flightline Weekly, 2019). More information on Skunk Works is available at https://www.flightlineweekly.com/post/2019/07/23/skunk-works-lockheed-martins-advanced-development-programs?msclkid=068e3af2b4fc11ecbf06876df6d2e243

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and built several attachments to support the training, i.e., area of operations map, local hotels, attendance request form, participant order of merit list, seating chart, and more. Units are welcome to use these products as a framework for a similar event. I repurposed many of these products from NGB, from prior train-the-trainer events they hosted.

Deliverables:

- A fragmentary order and products were provided by Utah–the mission is in the National Training Center (NTC) area of operations, with the AVCATT and LCT built with a scenario to match. Attendees went home with digital and paper copies of all products, including a set of training special instructions.

- IMOM, SAFE-T, and SEAT installed, with NTC Maps and digital terrain elevation data (for IMOM) for all participants who brought their Getac rugged laptops and a hard drive we could classify. The event included several hours of hands-on experience using IMOM from the experts of the 453D Electronic Warfare Squadron.[2]

- Attendees left the event with AMS 2800 academics complete and simulator training, including a refresher of AMS tasks.

At the end of the event, all products were hung for future reference and shared with all participants.[3]

There are some exciting changes coming to Army Aviation, and one of those–and often not fully understood–is the role of the UT/E (Unit Trainer/Evaluator). There will be a variety of UT/Es with training support packages suited to the different programs, for example: day tasks, night vision device tasks, instrument tasks, and AMS–with a likely potential of other variations of UT/E down the road. Once ATIC is formally established, a prerequisite to attending will be that the attendee must also be a UT/E (D. York, personal communication, April 5, 2022).

For the DoD to be the most successful, we need to think, talk, and train joint–you can help shape this in your backyard by hosting a venue that encourages collective opportunities. If different Guard states, with support and coordination through NGB, were to host a similar tactics event once a quarter, imagine the potential such sustained tactics venues would bring the force.[4] We wrote this article to share how we put our particular event together and to offer support in case others want to follow suit. You'll find us on the global address list. We look forward to hearing from those interested in hosting a similar event. Army Aviation must be "Always Ready, Always There!"

[2] Point of contact for questions on IMOM is Dale Wiese at DSN 969-4156, commercial at 210-977-4156, or email at dale.wiese@us.af.mil

[3] These products are available to DoD personnel with a valid common access card and clearance to access CUI-controlled information. Please contact the authors for more information.

[4] The South Carolina National Guard plans to hold the next Advanced Tactics Event, with an emphasis on Fused Mission Planning, in November. Reach out to their State AMSO, CW4 Michael S. Roberts, for details.

Biographies:

CW5 Jared "JJ" Jones is the State AMSO for the Utah National Guard and is a long-time AH-64 pilot (SP/IE/MG/AMSO).

CW5 Tim Brundage is the NGB AMSO and a long-time UH-60 pilot. Both he and CW5 Jones have spent their careers with a focus on tactics and taking Aviation Mission Survivability to the next level.

CW5 Dan York is the lead ATIC Developer with DES, a long-time AH-64 pilot (SP/IE/MG) with focused experience in low-level gunnery.

Utah National Guard Apache over the west desert in the Utah Test & Training Range. Photo credited to Lyn Burks and the Utah National Guard

Medical evacuation training. U.S. Army photo by SPC Lucas Wenger

U.S. Army Medical Evacuation Integration With Fleet Operations–Preparing for the High-End Fight of Tomorrow, Today

By LCDR Michael S. Ackman

Imagine a future state where an unfolding crisis triggers a massive surge of combat forces into the vicinity of the Western Pacific. As tensions mount and rhetoric escalates, the fleet will respond with a preplanned force flow that will posture our ships to maximize our operational capabilities. Surface Action Groups will sail independently to control key maritime sea lanes of commerce, and our Carrier Strike Groups and Amphibious Ready Groups will maximize their readiness. As the units form up in the fleet concentration areas and begin to sail west, there will be tremendous amount of fixed- and rotary-wing combat power available. However, despite the full inventory of aircraft in the Navy's arsenal, not a single aircraft will be dedicated exclusively to perform "MEDEVAC," or medical evacuation, duties. As we imagine this scenario, my question to the readers of this publication is quite simple…in this scenario, could Army Aviation provide MEDEVAC support to fleet operational units?

Before I pitch the case for bringing Army Aviation into the maritime environment, I think it is important to understand why this is on my mind. This idea dates back to 2006 when I was a junior corpsman (Medic) serving with 3D Battalion, Second Marines in Al Anbar province, Iraq. During that time, it was not uncommon for our unit to encounter improvised explosive devices (IEDs) on our patrols, and insurgents crossing the Syrian border were a constant threat. On one hot day in particular, an urgent casualty evacuation (CASEVAC) request was sent out for six casualties—three Americans and three Civilians—who had been wounded when an IED detonated (Wikipedia, 2022; Flower et al, 2005). I was assigned to an Amphibious Assault Vehicle platoon at the time, and we were the first responding vehicle to load up these wounded and move them to the Casualty Collection Point.

I was starting to feel overwhelmed as I tended to my first "mass casualty" event, and I did what I could for the injured. I applied tourniquets, bandaged wounds, and otherwise tried to keep them talking and comfortable. To this day, I still remember an uncomfortable situation where someone's boots kept tripping me as I worked. When I tried to get the injured member to move, I realized that he was long since gone. It was about 30 minutes into the ordeal when I found myself losing hope and struggling to do anything of value for my patients. All of those alive had multiple wounds, to include penetrating trauma and burns. The

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meager amount of supplies I had in my med-pack were all but depleted, and time was not on our side. Those screaming in pain needed medications stronger than I had available. Those who were silent needed immediate surgical attention, and my skills and experience were no substitute for the advanced care they needed. It was at this moment, when I was feeling at my lowest, that I heard the vehicle commander say what every battlefield corpsman wants to hear, "DUSTOFF is inbound to our position, ETA of 5 mikes."[1]

When the MEDEVAC bird landed, we were met by the aircraft medic, who immediately took charge. It was clear that he was an expert, and he lost no time in assessing the wounded and directing the order in which they should be loaded. As the burden of care was lifted from my shoulders, I knew that our Marines were in good hands. When the bird lifted off and headed to the rear, I immediately felt a sense of relief. The DUSTOFF bird was on its way to Al Qa'im, where a Navy surgical team was staged and waiting to receive them (Wikipedia, 2022; Flower et al., 2005). Later, after they had been stabilized, they were flown to an Army combat support hospital before being moved to Germany and later, the States. I share this experience as a long-winded way of saying that from my earliest days, I clearly understood the value of dedicated MEDEVAC support for combat operations and the importance of joint medical integration. When DUSTOFF was in direct support, there was a feeling of comfort, almost like having a security blanket. When they were not available (owing to weather or maintenance issues), I would see our entire battalion go into a defensive posture. It was an incredible difference, and we all knew that DUSTOFF would mean the difference between life and death.

Now, 16 years later, I am in a different position but thinking of DUSTOFF nonetheless. In the time since my deployment to Iraq, I have received a Commission in the Navy, and I specialize in Plans, Operations, and Medical Intelligence. In my current role, I am assigned to U.S. 3D Fleet as the Deputy Surgeon and Medical Planner. I now have the honor/task/chore (depending on the day) to coordinate medical planning for our maritime forces. It is an interesting assignment that I enjoy, but planning operations in the distributed maritime environment are complex and difficult, to say the least.

As I learned about fleet operations, it quickly became clear that the U.S. Navy is not in the "MEDEVAC" game. None of our existing aircraft are dedicated for medical care and evacuation. Instead, we plan for CASEVAC with a "lift-of-opportunity" mindset. In normal operations, we simply do not have the deck space on our ships to keep a

[1] You can read more about the history of DUSTOFF at the DUSTOFF Association webpage: https://dustoff.org/dustoff-association-history/

Simulated medical evacuation scenario. U.S. Army photo by Christoph Koppers

Medical evacuation mission. U.S. Army photo by SPC Charles Probst

one-trick pony occupied. As such, our movements are typically conducted by our MH-60 aircraft and our United States Marine Corps rotary-wing assets assigned to our amphibious forces (CH-53/UH-1/MV-22). That said, I am always looking for opportunities to integrate U.S. Army MEDEVAC capabilities in support of our fleet's operations, and I would challenge my counterparts on the Army side of the fence to do the same.

As we prepare for the future high-end fight against a near-peer adversary, is there a place for integration of the U.S. Army's MEDEVAC aircraft in direct support of our fleet? I believe that this is the question we should be working to answer. If we were to sortie the fleet and send a large amphibious force over the horizon, is there room on the deck for DUSTOFF to provide direct support? I would argue that there is, and that this would be an extension of the same integration that was extremely beneficial in Iraq and Afghanistan. However, to adopt this concept to the maritime environment, the following questions (at a minimum) must be answered by Army Aviation:

- Are there any synergies that can be leveraged with the MH-60 aviation assets currently embarked on U.S. Navy platforms? Are parts interchangeable? Can maintenance be completed with onboard personnel, or does the Army require specialized equipment and maintainers?

- How can Army Aviation maximize its support to the fleet? Could maritime search and rescue be adopted into the mission set to enable personnel recovery missions? Can we identify and standardize "push packages" that would make rapid embarkation of an aviation detachment possible?

- How can flight medics integrate and coordinate with the ship's medical department to efficiently enable patient care transfers? Is patient movement equipment compatible? Are there opportunities to standardize doctrine?

As of today, the thought of embarking U.S. Army MEDEVAC aircraft on one of our fleet's operational platforms seems far away. There are too many unanswered questions, too many gaps in the doctrine, and too little support for change. However, just because something is difficult to achieve does not mean that it is not worthwhile. The U.S. Navy has a clear gap regarding aircraft that can perform MEDEVAC functions. Meanwhile, the Army has the capability, but not the experience, of sea-basing aircraft in direct support of the fleet.

If I am alone in the assessment that DUSTOFF could complement and enhance our ability to move patients in the distributed maritime environment, then I will quietly fade into the background. If, however, any of the readers of this article see a future state where the Army and Navy would integrate to support large-scale operations, then I would ask that you strongly consider helping find answers to the questions posed earlier and support opportunities to integrate in exercises before we find ourselves in a shooting war. After all,

the lessons that we learn in steady-state operations today will avoid a future cost that is paid in blood.

Since the early days of my career, I have always respected Army MEDEVAC capabilities, and the Marines in my care directly benefitted from their boldness, courage, and professionalism. I would love to see the next generation of corpsmen who will fight at-sea enjoy the same advantages and feel the same relief that I experienced 16 years ago. In my humble opinion, I firmly believe that we should work toward joint health service support solutions that can maximize the efficiency and effectiveness of our fleet assets. I would argue that embarkation of Army Aviation capabilities would be a tremendous force multiplier (especially for large-scale amphibious forces), and that NOW is the time to make this a reality.

Biography:

LCDR Mike Ackman is currently serving in the U.S. Navy 3D Fleet as a Deputy Surgeon and Lead Medical Planner. LCDR Ackman has been awarded the Navy Commendation Medal five times, the Good Conduct Medal twice, the Navy Achievement Medal with Combat "V" Distinguishing Device, the Navy Achievement Medal, and the Military Outstanding Volunteer Service Medal.

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Black Hawk helicopters prepared for medical evacuation training. U.S. Army photo by SPC Lucas Wenger

U.S. Air Force F-22 Raptor, F-16 Fighting Falcon, and a Commemorative Air Force P-51 Mustang fly in formation while flying over areas of Alabama. U.S. Air Force photo by Senior Airman Clayton Cupit

Exemplary Service: The Stories of Black Veterans Throughout American History

By Ms. Kimberly Rowe, with contributions by CPT Andrew Lightsey IV

Introduction: A Seat at the Table

The year 2020 seemed to be a roaring new beginning for Black military history. The few living members of the 332D Fighter Group 477th Bomber Group, collectively called the Tuskegee Airmen, were in receipt of recognition. During the year, they witnessed events such as the Washington Football Team considering changing its name to the Redtails (Franklin, 2020), Red Tail COL Charles McGee flipping the coin at the Super Bowl (Fleury, 2020), and the U.S. Air Force (USAF) Academy football team wearing honorary Red Tails jerseys for their annual football game against West Point (NBC Sports Washington Staff, 2020). Perhaps the beginnings of a racial atonement era had arrived, and the trailblazers of the sky were finally given a palpable seat at the table of American history.

Before the Tuskegee Airmen became more visible in pop culture, high volumes of books, documentaries, press, and other forms of documentation about the group had accumulated since WWII. With their individual and collective stories excluded from many academic curriculums, it seemed as though the legacy of the Tuskegee Airmen collected dust in the attics of academia until the past several years.

Past attempts to showcase the Tuskegee Airmen's story like the Home Box Office movie, *Tuskegee Airmen,* (Fraser, 1995) and the George Lucas-produced film, *Red Tails* (Hemingway, 2012), brought the historical account of the flying unit to the big screen. Both films allowed their audiences to see Black men in pre-Civil Rights America become world-class pilots, bombardiers, and navigators. The authors believe that once these movies left theatres, the Tuskegee Airmen story returned to mostly out-of-sight and out-of-mind in mainstream America until recently.

On February 8, 2021, the United States Mint (U.S. Mint) released the Tuskegee Airmen National Historic Site Quarter Coin. The coin was part of the U.S. Mint's "America the Beautiful" collection. It was the first and only coin of this series to be released in 2021. Inscribed on the coin's back is a Tuskegee Airman pilot suiting up as two P-51 Mustangs fly above. The Moton Field Control Tower (Alabama) is visible in the background. The phase "THEY FOUGHT TWO WARS" is wrapped across the top back of the coin (U.S. Mint, 2021).

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Two days after the coin's release, the History Channel aired the documentary, *Tuskegee Airmen: Legacy of Courage*. The 1-hour special was executive produced and narrated by *Good Morning America* Anchor, Robin Roberts, whose late father was a Tuskegee Airman (Harris, 2021). These commemorations, various in scale, are examples of how all people, from civilians to celebrities, can take pride in honoring worthy military heroes.

The Tuskegee Airmen were not the only veterans vindicated during this era. In January, 2020, the *USS Doris Miller* Navy aircraft carrier was named after enlisted Ship's Cook, Third Class, Doris "Dorie" Miller (1919–1943), almost 80 years after his death (U.S. Department of Veterans Affairs, n.d.). In 1942, Miller was the first Black American to be awarded the Navy Cross, the Navy's second-highest decoration for valor, after rescuing his dying captain and shooting down two Japanese planes with a machine gun during a Pearl Harbor attack. During this time, Black sailors were not authorized to fire guns (Price, 2020; U.S. Department of Defense, n.d.).

Navy Cross medal. Photo taken from MedalsOfAmerica.com

Doris Miller awarded the Navy Cross, 1942 (Encyclopedia Britannica, n.d.)

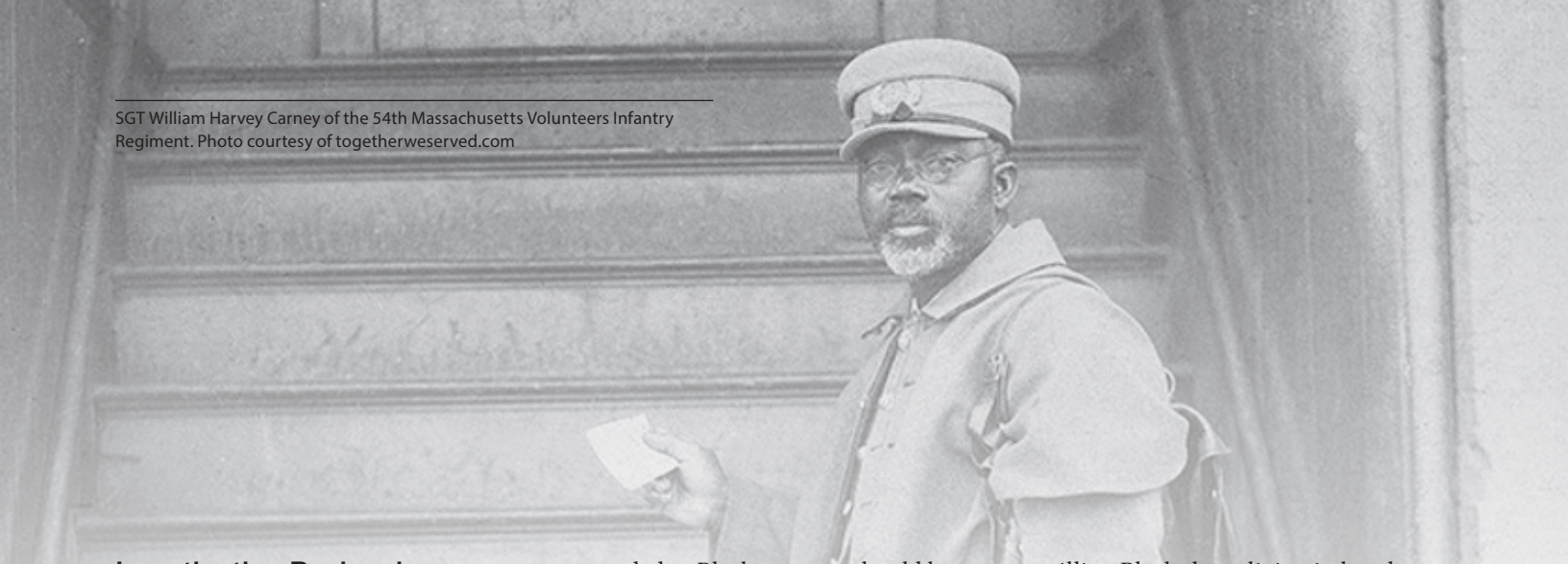
In February, 2021, U.S. Senator of Kansas, Jerry Moran, sponsored a bill to award "the Women's Army Corps' 6888th Central Postal Directory Battalion, the only all-female Black unit to serve in Europe during WWII," the Congressional Gold Medal (Casey, 2021; Congress.gov, 2021).[1] 'The Six Triple Eight' Congressional Gold Medal Act of 2021 was signed into law on March 14, 2022 (United States Senator for Kansas, Jerry Moran, 2022).

On May 31, 2021, Retired Army LTC, Barnard Kemter, delivered a Memorial Day speech to a small crowd attending an America Legion service in Hudson, Ohio (Vigdor, 2021). Part of this speech discussed the roles of African Americans in establishing Memorial Day celebrations. As LTC Kemter began telling the audience how free Blacks commemorated late Union Soldiers who died as prisoners of war by providing proper burials and organizing a parade in their honor, his microphone stopped working (Kornfield & Salcedo, 2021). LTC Kemter continued his speech in front of the crowd of a few hundred people. Afterward, the crowd, "appreciative of his speech," approached Kemter and surrounded him. The sound engineer told Kemter that "event organizers had tampered with the volume" (Kornfield & Salcedo, 2021)."Kemter handed out four printed copies of his speech that he had brought with him and left" (Kornfield & Salcedo, 2021).

Though his speech could not be delivery loudly, his message was amplified, thanks to the episode going viral (Kornfield & Salcedo, 2021). The circulating video clips of LTC Kemter's speech have possibly educated many who did not know how Black Americans paved the way for the creation of one of America's most honorable holidays. In the eyes of this article's authors, the support Kemter received for his speech signifies that America has entered a historical renaissance. In this era, we acknowledge the impact Black Americans have had on our great nation, especially in our military.

[1] "The Congressional Gold Medal is awarded by an act of Congress ... awarded to individuals who have performed an outstanding deed of service to the national interest, prosperity, or security of the United States" (https://www.identifymedals.com/article/differences-congressional-gold-medal-medal-of-honor/)

The 6888th Central Postal Directory Battalion, 1944-1946. Photo courtesy of the Army Women's Foundation



SGT William Harvey Carney of the 54th Massachusetts Volunteers Infantry Regiment. Photo courtesy of togetherweserved.com

Investigating Racism in Medal of Honor Awards

In May 1993, the U.S. Army contracted a research team, led by Dr. Daniel K. Gibran of Shaw University in Raleigh, North Carolina, to investigate its own factors in awarding the Medal of Honor (Thompson, 1997).[2] After exhaustive examination, the researchers determined, by interviews and review of Army files, that there were no records of any Black Soldiers who served in WWII being recommended for the Medal of Honor (Thompson, 1997).

In 2017, the National Museum and African American History and Culture reported only 89 Black Soldiers had been awarded the Medal of Honor since its introduction to law by President Abraham Lincoln for the Navy in 1861 (Smithsonian National Museum of African American History and Culture, 2017). Army branch members became eligible for the award in 1862 (Smithsonian National Museum of African American History and Culture, 2017). SGT William Harvey Carney of the 54th Massachusetts Volunteers Infantry Regiment was the first Black recipient of the Medal of Honor in 1900 (Page, 2022).

In August 2021, Defense Secretary, Lloyd Austin III, ordered the military to review if some of the service crosses awarded to Black veterans should be upgraded to the Medal of Honor (Veterans™ Authority, 2021). To address the racial disparities that prevented Black veterans from receiving the award, the Defense Department stated in a press release that the review would ensure veterans who served in eras of persasive racial discrimation, "receive equal opportunities for their heroism to be recognized" (Veterans Authority, 2021). Austin's review also revealed the same chance to have service medals considered for upgrade had been granted to Asian-America, Pacific Islander, Jewish, and Hispanic veterans for 25 years (Veterans Authority, 2021).

The Tuskegee Airmen have been credited for their perseverance in fighting two wars–the war abroad and discrimination at home (U.S. Mint, 2021). The authors believe this notion can be extended to all veterans of color, as it encapsulates the unfairness of fighting for the humanity of others just to have their own denied when they returned home as civilians. The authors also presuppose that to understand how miscarriages of social justice could happen to Black Americans during and after their military service, one must examine the tumultuous history of the United States.

Surviving Racism: Post-Civil War

When Abraham Lincoln issued the final Emancipation Proclamation in 1863, it immediately freed more than 3 million Black slaves living in bondage in the Confederate states (History.com Editors, 2009c). These newly liberated people pledged their allegiance to the Union, giving its Army a bounteous number of enlisted Soldiers. By the end of the Civil War, the number of Black enlisted Soldiers in the Union Army reached around 180,000. These numbers provided the Union Army the advantage needed to defeat the Confederacy in America's Civil War (History.com Editors, 2022).

The contributions of Black enlisted Soldiers brought victory to the Union and made way for constitutional triumphs benefiting all Black Americans. The Reconstruction Era (1865–1877) brought forth the ratification of the 13th, 14th, and 15th Constitutional Amendments. Collectively, they were referred to as the "Civil War Amendments" and the "Reconstruction Amendments" (Michigan State University, n.d.). This reforming trinity of Amendments to the U.S. Constitution entailed the following:

- The 13th Amendment banned slavery and involuntary servitude, except if used as a punishment for a crime (Michigan State University, n.d.).
- The 14th Amendment deemed all people born in the United States, including Blacks, as United States citizens (Michigan State University, n.d.).

[2] "The Medal of Honor is a military award given for extreme bravery in action. It is specifically for a member of the U.S. Armed Force, and each service branch has a uniquely designed medal with the exception of the Coast Guard and the Marine Corps which both use the Navy's medal" (https://www.identifymedals.com/article/differences-congressional-gold-medal-medal-of-honor/)

- The 15th Amendment granted Black Americans the right to vote (Michigan State University, n.d.).

Black American service members did not return home from WWI (1914–1918) to a country that granted them the rights and opportunities to progress comparable to what their forefathers received at the end of the Civil War. Instead, they returned to a Nation gripped in a hostile racial climate (The National WWI Museum and Memorial, n.d.). Competition for job opportunities in postwar America was fierce. Many White service members returned aggravated after finding African Americans took the jobs they had before the war (The National WWI Museum and Memorial, n.d.). Furthermore, Blacks that were a part of the Great Migration, the mass caravan of Blacks from the rural South to the North and Midwest aspiring for employment, were not welcomed by Northern Whites. Relocating to the North did not affranchise them from the hatred and marginalization experienced in the Jim Crow South (The National WWI Museum and Memorial, n.d.).[3]

Unmatched Patriotism: SGT William Harvey Carney, The Buffalo Soldiers, Other Pioneers of WWI & II

Historically, Black veterans have fought in all of America's Wars since the Revolutionary War (Wikipedia, 2022, para. 1). During the Civil War, Black service members fought on the side of the Union Army to help defeat the Confederacy. SGT William Harvey Carney of the 54th Massachusetts Volunteer Infantry Regiment became the first African American recipient of the Medal of Honor for his outstanding performance during the battle of Fort Wagner in 1863 (Page, 2022). During the charge led by Carney's regiment, the unit's flag bearer fell after being shot. SGT Carney retrieved and carried the flag as his unit marched forward. Carney was eventually shot himself, but he did not drop the regimental colors (American flag) (Dickinson College, 2017-2021).

In spite of sustaining serious injuries, SGT Carney refused to let the American flag touch the ground. After crossing federal lines and handing the flag to another member of the 54th Massachusetts regiment, he exclaimed, "Boys, I did but my duty; the dear old flag never touched the ground!" (Page, 2022). In times of crisis, Soldiers of color like William Harvey Carney fought with unmeasurable gallantry. Nevertheless, it would take decades, and sometimes centuries, before their valor would truly be appreciated. The intrepidity of Black Soldiers helped America triumph in wars and inspired future generations to be pioneers in areas where their representation was nonexistent, but necessary (Tuskegee Airmen, Inc., n.d; Ortiz, 2022).

After their formation in 1866, the all-Black 9th and 10th Cavalries and the 24th and 25th Infantries, respectively known as the "Buffalo Soldiers," fought in the American-Indian Wars (1622–1924) and later went to Cuba to fight in the Spanish-American War (1898) (Nix, 2015). They convoyed the Western Frontier and became the Nation's first park rangers, patrolling in Yosemite and Sequoia National Parks (National Park Service, n.d.).

In WWI, the 369th Infantry was one of the few Black combat regiments fighting in that war. They served alongside the French army for 6 months. Even their German foes recognized their elite combat abilities, nicknaming them the Harlem Hellfighters (Gates, 2013). The Black combat unit also earned the distinguished Croix de Guerre[4] (Gates, 2013). In 1917, Black American, CPL (Caporal), Eugene Bullard, received his military pilot's license while serving

A look back at the courageous Harlem Hellfighters of WWI. Photo courtesy of ABC News

in the French Air Service, making him the first Black military pilot ever, even though he did not serve in the U.S. military (Haulman, 2018).

World War II (1939–1945) saw multiple pioneering Black combat units that proved Black Americans "measure up" in technical fields (Haulman, 2018). The Tuskegee Airmen broke barriers as America's first African American flying unit (Haulman, 2018). In 1944, 13 Black men, colloquially known as the Golden Thirteen, became the first group of Black service men to complete officer training in the United States Navy (Naval History and Heritage Command, 2020). The 761st Tank Battalion became the first Black tank squad to see combat and was one of the first American battalions to face the Russian Army (Mattimore, 2018). They infiltrated Nazi Germany's Siegfried line[5] and participated in the Battle of the Bulge.[6] England's Maverick Prime Minister,

761st Tank Battalion. Logo obtained from Wikipedia

[3]Jim Crow laws were state and local laws that enforced racial segregation in the Southern United States. Other areas in the United States were also affected by formal and informal policies of segregation. More information is available at https://en.wikipedia.org/wiki/Jim_Crow_laws?msclkid=ddfb3a33a9f811ec9e03bfd89950874b

[4]A military decoration of France was awarded in World War I & II and other military conflicts. Typically, the award is gifted to French Armed Service members, French citizens, and foreign military forces allied to France (Britannica, Editors of Encyclopaedia, 2013).

[5]A significant barrier built along Germany's western frontier in the 1930s and later expanded in 1944. The structure aided the Germans in mounting their counteroffensives until the Allies broke the entire line in 1945 (Britannica, Editors of Encyclopaedia, 2019).

[6]A 6-week battle between the Allied forces and German opposition fought in the Ardennes Forest of Europe. The Allies' victory in January 1945 weakened the Nazi's power was followed by Germany's surrender 5 months later (History.com Editors, 2009).

William Robinson "Robbie" Clarke. Photo credited to the Royal Aero Club Trust

Winston Churchill, called it "the greatest American battle of the War" (History.com Editors, 2009a).

Black service members also played a quintessential role fighting among Allied Forces during WWII. The Royal Air Force, or RAF, Britain's aerial warfare branch, was already integrated in WWII. In the First World War, Jamaican-born Robbie Clarke became the first Black pilot to fly for Britain (History.com UK Editors, 2022). Black soldiers like Walter Tull proved that an officer did not have to be of "pure European descent" to be an exceptional officer (History.com UK Editors, 2022). The RAF trained an estimated 500 Black Caribbean aircrew members and about 6,000 Caribbean ground crew personnel (History.com UK Editors, 2022).

Hallmark Events and Policies

Several policies incentivized African-Americans to receive pilot training in the civilian and military areas. Here are a few of the policies and events that allowed Black Americans to show their capabilities in the aviation industry between 1921–1941:

- June 15, 1921: "Bessie Coleman became the first civilian licensed Black American pilot" (Haulman, 2016, p. 12).
- May 1931: John C. Robinson became the first Black student to graduate from the Curtiss-Wright Aeronautical School in Chicago, Illinois (Haulman, 2016, p. 12).
- October 9, 1932: "James Banning and Thomas Allen became the first Black pilots to complete a transcontinental flight" (Haulman, 2016, p. 12).
- July 28, 1933: "Charles Alfred Anderson and Albert E. Forsythe completed the first roundtrip transcontinental flight" (Haulman, 2016, p. 12).
- 1933: John C. Robinson and Cornelious Coffey, organizers of Chicago's first all-Black flying club—the Challenger Air Pilots' Association, supervised the construction of the all-Black flying club's first airstrip in Robbins, Illinois (Haulman, 2016, p. 12).
- May 1937: "Willa Brown became the first Black American woman to earn her pilot's license in the United States" (Haulman, 2016, p. 13).
- 1939: Chauncey Spencer and Dale White completed a long-distance flight from Chicago, Illinois, to Washington DC. The flight attracted much media attention, showing the potential opportunities aviation could have on the Black community (Haulman, 2016, p. 13).
- May 1939: Chauncey Spencer and Dale White completed a 10-city flight tour to show aviation's potential opportunities for the Black community. During this time, Spencer and White met with a National Airmen's Association of America lobbyist named Edgar Brown. Brown introduced the pair to several politicians, including Senator James Slattery of Illinois, Senator Harry S. Truman of Missouri, and Black Congressman, William Mitchell. The gentlemen also met Illinois Congressman, Everett Dirksen, who proposed in April 1939, to amend pending legislation to include Blacks in the proposed Civilian Pilot Training Program (Haulman, 2016, p. 14).
- June 27, 1939: Congress passed the Civilian Pilot Training Act, which included a provision added by Illinois Congressman Dirksen that forbade individuals' exclusion because of race. Six Black colleges took part in the program: "Hampton Institute, Howard University, North Carolina A&T, Delaware State College for Colored Students, Tuskegee Institute, and West Virginia State College" (Haulman, 2016, p. 14).
- October 15, 1939: The Tuskegee Institute and the private firm, Alabama Air Service, at the municipal airport in Montgomery, Alabama, were granted the Civil Aeronautics Authority certification to operate as a civilian pilot training school. Participating cadets "received their

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ground training at Tuskegee and flight training at the Montgomery airport" (Haulman, 2016, p. 14).

- October 8, 1940: "President Franklin D. Roosevelt approved a new War Department policy allowing Blacks to serve in all branches of service (including the Air Corps)." The announcement of the policy's approval came the next day. Around this time, "the War Department promoted Benjamin O. Davis, Sr to be the first Black general in the U.S. Army" (Haulman, 2016, p. 15).

- October 16, 1940: The War Department issued a letter officiating the new racially inclusive policy to all its commanding generals.The policy stated that ,"Blacks would be serving in all branches of the Army" (Haulman, 2016, p. 16).

- January 16, 1941: The War Department announced that a "Negro pursuit squadron" would be organized within the Army Air Corps. Ground personnel were to train at Chaunte Field, Illinois, and pilots were to train in Tuskegee, Alabama. The announcement came 1 day after the President of an influential Black railroad union, A. Phillip Randolph, called for 10,000 Black citizens to march on Washington, D.C., to demand the end of racial segregation in the military and discrimination in hiring for the defense industries contracted by the federal government (Haulman, 2016, p. 17).

- January 17, 1941: Yancey Williams, a civilian pilot and student at Howard University, filed a lawsuit against the War Department. He had applied to the Army Air Corps in November 1940, but received a rejection 3 days later stating there were no fitted units for "color applicants" available to train under at the time. Williams' lawsuit received support from the National Association for the Advancement of Colored People (Haulman, 2016, p. 17).

The Tuskegee Airmen

The Tuskegee Airmen were constituted on March 19, 1941, when the U.S. War Department established the 99th Pursuit Squadron, later renamed the 99th Fighter Squadron (Greenspan, 2016). The 99th Pursuit Squadron, composed of Black enlisted men, was activated at Chanute Field, Illinois, on March 22, 1941, under the command of CPT Harold R. Maddox. Pilot training was held at the Tuskegee Institute, a historically Black college founded by prominent Black leader, Booker T. Washington. As more Black pilots graduated from their training at the Tuskegee Institute, the pilot program expanded and formed the 100th, 301st, and 302D fighter squadrons. Together, these squadrons made up the 332D Fighter Group (Greenspan, 2016). Later, the 477th Bombardment Group formed and consisted of Black bomber pilots (Greenspan, 2016; Haulman, 2016).

The Tuskegee Airmen were comprised of members of the 332D Fighter Group, 477th Bombardment Group, and support personal (Greenspan, 2016). Altogether, 992 pilots completed training at the Tuskegee Institute (Greenspan, 2016). The 10,000-plus support personnel consisted of men and women and included, but was not limited to,"flight instructors, officers, bombardiers, navigators, radio technicians, mechanics, air traffic controllers, parachute riggers, and electrical and communications specialists …laboratory assistants, cooks, musicians, and supply, fire-fighting, and transportation personnel" (National Park Service, 2000).

The irony in the Tuskegee Airmen's triumphant story is that America expected them to fail (Greenspan, 2016). In 1925, the U.S. Army War College in Washington, D.C., published a report calling Blacks "a sub-species of the human family" and further claimed that they would perform poorly as Soldiers because of their "cowardly, subservient, superstitious, amoral and mentally inferior nature" (Greenspan, 2016). Black advocacy groups fought against the fallacy (Greenspan, 2016). The Army Air Corps resisted integration, though the Civilian Pilot Training Program, passed by Congress on June 27, 1939, proved that Black recruits could fly. The program was designed to make certain that specific pilots were available in case war broke out. According to census records, the program included historically Black colleges and helped the number of licensed Black pilots rise in the United States (Greenspan, 2016; Haulman, 2016, 14).

Military desegregation began to dismantle in 1940 when Republican presidential nominee, Wendell Willkie, pledged to desegregate the military. Democratic President, Franklin D. Roosevelt, authorized the enlistment of Black aviators and other civil rights concessions (Greenspan, 2016, para. 5). However, desegregation did not equate to fairness in training and combat. The inaugural class of Tuskegee pilots lived in tents while studying flight, radio code, navigation, and meteorology (Greenspan, 2016, para. 8). In war, Black pilots were required to fly 70 missions compared to the 50-mission requirement set for their White counterparts. The more the airmen flew, the less their chances were to survive the war (Northrop, 2020, para. 8).

In the end, the Tuskegee Airmen were triumphant in battle. They earned their crowns as military royalty by helping the Allies of WWII achieve victory. Their achievements include flying more than 1,800 missions, including 351 missions escorting bombers, and shooting down a total of 112 enemy planes (National Aeronautics and Space Administration [NASA], n.d., p. 4). Moreover, they flew with such tactfulness that they made their red-tailed planes, the P-51 Mustang, as iconic as their reputation. This legendary fighting group etched their legacy in the skies of European and Mediterranean Theatres and proved to be one of the best American fighter groups of all time (NASA, n.d., p. 3).

Discrimination Abroad: The Riot of Bamber Bridge

Regardless of the triumphs and participation of Black service members in WWII, the war illustrated the dichotomy of the United States military. When stationed in Allied countries,

BG Benjamin O. Davis Sr. inspects the rifle of a U.S. African American Soldier. In 1943, a bloody battle between Black and White U.S. Soldiers took place at Bamber Bridge, England. Photo courtesy of the Library of Congress

Black service members experienced the freedom their America only declared in parchment (Nielsen, 2020; Klein, 2021). The epitome of this was the 1943 Riot of Bamber Bridge in Great Britain. During the war, the 1511th Quartermaster Truck Regiment, a primarily Black logistics unit stationed at the U.S. Army Air Base 569 in Bamber Bridge, clashed with the 234th U.S. Military Police (MPs), an all-White unit stationed on the north side of the village, over race relations (Nielsen, 2020).

Britain's local populations were known to embrace the Black American Soldiers stationed in their cities (Nielsen, 2020). The village of Bamber Bridge, Lancashire, was no exception. However, the MPs of the 234th unit disapproved of the warm reception local establishments showed members of the 1511th (Nielsen, 2020). They insisted that a local pub owner adapt to their racist ideals and segregate his establishment. The next day, the MPs returned to find "Blacks Only" signs at three village pubs. Their misplaced pride was further injured when British barmaids told them to wait their turn (Nielsen, 2020).

On June 24, 1943, CPL Windsor and PFC Ridgeway of the 234th U.S. MPs entered the Ye Old Hob Inn. They attempted to arrest a Private Adams of the 1511th for allegedly not having a pass and being improperly dressed. When the Soldiers of the 1511th unit and MPs began arguing, locals from town and women from the British Auxiliary Territorial Service intervened and sided with the 1511th unit. The quarrel continued as Adams attempted to advance on one of the MPs with a bottle, resulting in a CPL Windsor drawing a gun. SGT Byrd of the 1511th unit defused the tension and persuaded the MPs to leave the pub. However, while driving away, "Private Adams threw a bottle at the jeep, and the MPs went to their base to pick up reinforcements to return to the pub to arrest the black soldiers" (Neilsen, 2020).

The MPs attempted to apprehend the 1511th Soldiers as they walked back to their base. A fight ensued, and Private Adams was shot in the neck. Once the 1511th men returned to base at midnight, they armed themselves with rifles and a machine gun truck and drove to the MP camp to retaliate. Soldiers of the 1511th raided the MPs' gun room and engaged in a shootout with them. The gunfight ended around 4 a.m. In the end, one Private of the 1511th was killed. Five other 115th Soldiers and two MPs were wounded. Two trials resulted in 27 out of 32 Soldiers of the 1511th unit being found guilty of various charges. However, most of the sentences were reduced or dismissed, thanks to the overwhelming support of the British countrymen (Nielsen, 2020).

Hollywood on the Battlefield

The Riot of Bamber Bridge exemplified how Black Americans often received more acclamatory treatment fighting abroad than on the home-front. This reality was certainly true for American-born entertainer, Josephine Baker, who spied for her adopted country (France) during WWII. Though her distinction as an illustrious dancer made her an unlikely spy recruit, Baker accepted the position, telling France's head of military intelligence service, Jacques Abtey:

"France made me what I am ... The Parisians gave me their hearts, and I am ready to give them my life"
(Klein, 2021).

Baker, equipped with beauty and charm, cleverly finessed secrets from enemy officials enchanted by her fame. As a spy, Baker encountered endless danger. She endured insults from fascists, being told to "Go Back to Africa!" while performing across Europe (Klein, 2021). Yet, despite the ills of the daring role, Baker proudly served France.

Two months following the liberation of Paris from Nazi control in 1944, Baker was exalted by her French countrymen on Paris' most beloved avenue,

American singer, dancer, and actress, Josephine Baker (1906–1925) in a military uniform, 1944. Photo by John D. Kisch/Separate Cinema Archive/Getty Images

the Champs-Élysées. The crowd tossed flowers at Baker, adorned in her "blue air auxiliary lieutenant's uniform punctuated with gold epaulets," as she rode in the back of an automobile cruising the magnificent avenue (Klein, 2021). She wore the uniform again in 1961, when she received France's two highest military honors. Like the Black American squadron, the Harlem Hellraisers of WWI, France bestowed Baker with the Croix de Guerre. Her espionage work also earned her the Legion of Honor award (Klein, 2021). Josephine Baker, a St. Louis native, raised impoverished, fatherless, and maligned by the malevolence of Jim Crow, successfully used her popularity to evolve from entertainer to one of France's greatest heroines (Klein, 2021).

Valor and Sportmanship

The story of Josephine Baker sharply contrasted with the experience of well-known African-American veterans. Before becoming a pioneering Major League Baseball (MLB) player, Jackie Robinson was the first athlete in The University of California, Los Angeles' history to earn varsity letters in four sports (Clancey, 2021). In 1942, after financial challenges ended his college career, Robinson was drafted into the U.S. Army. After 2 years in the service, 2LT Robinson was honorably discharged after a wrongful arrest by MPs and the aftermath following his objections to the incident. His arrest and court-martialing were fueled by racial discrimination (Clancey, 2021). After playing one season in the Negro Baseball League as a member of the Kansas City Monarchs, Robinson joined the Brooklyn Dodgers in 1947. He was the first African American to play in the Major Leagues since 1889, when the MLB commenced segregation (Jackie Robinson, 2022).

Jackie Robinson broke the color barrier of professional athletics in America after leaving the military. Another Black veteran who would become a pioneer in sports was Wendall Scott. Scott was a Black National Association for Stock Car Auto Racing (NASCAR) driver who served in WWII for 3 years as a motorpool mechanic. He was the first Black racer to race full-time in a premier series and win a race (Jensen, 2020). "On December 1, 1963, Scott became the first African American to win a race in the Sprint Cup Division" (Klein, 2010). However, Scott was not announced as the winner of the race. Instead, second-place finisher, Buck Baker, was crowned the winner. Scott would eventually be acknowledged as the race's winner days later (Klein, 2010).

Not many Black veterans like Wendell Scott had the opportunity to showcase skill sets they utilized during their time

Wendell Scott poses for a portrait in his car as he became the first African-American driver to win in the NASCAR Cup division with a victory in 1963 at Jacksonville Speedway Park in Jacksonville, Florida. Scott was NASCAR's first black competitor, starting in the sportsman class in 1953. Photo by ISC Archives via Getty Images

in the service. Even fewer were recognized for their outstanding abilities. Likewise, Black pilots were scarce in opportunities to showcase their flying capabilities. On May 2, 1949, a group of Airmen from the 332 Fighter Group participated in the "First Top Gun" weapons meet competition held at a Las Vegas USAF base (James H. Harvey III, 2008–2002). The team, consisting of CPT Alva Temple, 1LT Lieutenant Harry Stewart, 1LT James Harvey, and alternate, 1LT Halbert Alexander, placed first at the end of the competition. However, the USAF did not recognize them as the winners of the match until April 1995, 46 years after their accomplishment (James H. Harvey III, 2008–2022).

From left to right, Halbert Alexander, James Harvey, Alva Temple and Harry Stewart Jr., stand next to their Fighter Gunnery Meet trophy in 1949. The trophy then went missing for 55 years. Photo courtesy of task and purpose at: https://taskandpurpose.com/history/tuskegee-airmen-top-gun-trophy/

In 1948, 3 years after WWII, President Harry Truman issued Executive Order 9981 to end discrimination in the military (History.com Editors, 2022). However, there was some resistance from White service members and "racism continued in the armed

forces" (Vox, 2019). Discrimination was banned from practice when Blacks prepared to sacrifice their lives protecting the liberties of foreigners. However, their civil rights were not protected when they returned home (Equal Justice Initiative, 2019, p. 7). Black men and women who courageously served in WWII were susceptible to the lynching, segregation, and discrimination they faced before their deployment abroad (Equal Justice Initiative, 2019). The vulnerability of Black ex-Soldiers to White extra-judicial violence is highlighted in the Equal Justice Initiative's 2017 report, "Lynching in America: Targeting Black Veterans." This report details American racial violence and terror from 1877–1950 (Equal Justice Initiative, 2017, p. 8).

Despite 1.2 million African American men serving in WWII to rehabilitate democracy overseas, the constitutional rights granted to Black Americans by the 13th, 14th, and 15th Amendments could not work to the fullest of their capacity due to the obstruction of Jim Crow laws (Clark, 2020). The 13th Amendment could be voided when punishing citizens for a crime (Michigan State University, n.d.). The authors opine that Black veterans returning from the service had to wait until the 1960s before being bestowed the rights ratified in the Reconstruction Era.

The Civil Rights Movement & the Integration of Commercial Aviation

The electrifying Civil Rights Movement (1955–1968) legally dismantled Jim Crow and united protestors of all races to push legislators to introduce bills and enact laws to end segregation, Black voter suppression, and discriminatory employment and housing practices (History.com Editors, 2022, section 13).

The Civil Rights Movement galvanized the creation of the Civil Rights Act of 1964, prohibiting discrimination based on race, color, religion, sex, or national origin (History.com Editors, 2022, section 9; Office of the Assistant Secretary for Administration & Management, n.d.). The Civil Rights Act of 1964 was followed by the Voting Rights Act of 1965, banning all voter literacy tests and providing certain voting jurisdictions with federal examiners (History.com Editors, 2009b). In addition, the Fair Housing Act of 1968 prevented housing discrimination based on race, sex, national origin, and religion (History.com Editors, 2010).

Black WWII pilots were denied jobs in commercial aviation until 1964, when USAF Capt., David E. Harris, became the first African American to fly for a major commercial airline (Smithsonian National Air and Space Museum, n.d.; Ortiz, 2022). It took nearly 20 years after the end of WWII before racially discriminatory hiring practices in commercial aviation were challenged (Ortiz, 2022).

In the case of *Colorado Anti-Discrimination Commission v. Continental Airlines, Inc.* (1963), the plaintiff, Marlon Dewitt Green, a Black pilot and USAF veteran, claimed he was unlawfully discriminated against after being denied employment at Continental Airlines in 1957. The airline denied Green the employment opportunity as a pilot upon discovering that he was Black, while hiring five White pilots with lesser qualifications (*Colorado Anti-Discrimination Commission v. Continental Airlines, Inc.*, 1963).

The case was eventually brought before the U.S. Supreme Court. In 1963, the U.S. Supreme Court ruled in favor of Green and the Colorado Anti-Discrimination Commission (*Colorado Anti-Discrimination Commission v. Continental Airlines, Inc.*, 1963). The landmark decision helped dismantle discriminatory hiring practices in the commercial passenger airline industry and opened the door for other Black pilots like Capt. Harris. In 1965, Green was finally hired by Continental Airlines, for whom he flew for 13 years (Ortiz, 2022).

Many of the Black aviators and USAF veterans who served in WWII were in their 40s at the time of the U.S. Supreme Court ruling. If these veterans were given the opportunity to work in commercial aviation at the end of war when they were in their 20s, there is no telling what impact they would likely have had nor how the demographics in the aviation industry might reflect that impact today.

Tuskegee Airmen honored with marker at Troy, Alabama airport. Photo courtesy of Troy Today

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Conclusion

Even after fulfilling their service obligations, defending America with heroic fortitude did not initially earn Black veterans their due respect. The honorings bestowed to many Black veterans in 2020 and beyond bring gratification to active military members like the contributing author, CPT Lightsey, who believes that Black military history is finally being accepted as American history.

To preserve the legacy of pioneering veterans of color, city governments, schools, military publications, and mainstream media have a civic duty to educate their residents, students, readers, and audiences on the contributions of Black veterans.

In 2021, The National Veterans Memorial and Museum of Columbus, Ohio, showcased the stories, challenges, and triumphs of Black service men and women during their 2021 Black History Month exhibit (Gresser, 2021). The exhibit featured the stories of Crispus Attucks—the first American killed during the American Revolutionary War, Harriet Tubman—the icon and Union Army spy who aided many slaves to freedom, and countless more men and women of color who served with "courage, perseverance, and fortitude" (Gresser, 2021).

Educational programs, like the ones mentioned above, play a vital role in advocating for Black veterans. Discussing their contributions provides chances for dialogue, allowing storytelling and unique learning opportunities. Willingness to listen to these stories can help us all empathize with the plights caused by "systemic racial inequalities" (Black Veterans Project, n.d.) and potentially bring the United States military closer to achieving racial inclusion and justice in all of its five branches (Black Veterans Project, n.d.).

By advocating for Black veterans, we continue the momentum that has helped America uncover the stories of many unsung military heros of color over the past couple of years. With the help of educational incentives and grassroot efforts keeping their stories in circulation, we come closer to securing the legacy of Black veterans in American history.

Biographies:

Kimberly Rowe is a Chicago native and a self-proclaimed history enthusiast. In 2020, Rowe, along with six others, co-founded the CPT Robert L. Martin Commemoration Committee (CRLMCC). The seven-member committee has been fundraising to build a memorial that will bear the name of the late Tuskegee Airman, CPT Robert L. Martin, at the Dubuque Regional Airport (Iowa). She has served as both an active volunteer for the Chicago "DODO" Chapter of Tuskegee Airmen, Inc., and the Experimental Aircraft Association (EAA)'s Young Eagles Registration Coordinator for the Chicago and Northwest Indiana region since 2015.

CPT Andrew Lightsey IV has served as an Aviation Officer in the United States Army for over 5 years. He is a qualified pilot in the LUH-72 Lakota and the UH-60M Black Hawk Helicopters. He deployed to Afghanistan in 2019 and earned the Air Medal with a Combat "C" Device.

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The all-Black 369th Division, or Harlem Hellfighters, return home to New York City for a victory parade after fighting valiantly in World War I, Feb. 18, 1919. Photo via National Archives, originally captured by Western Newspapers Union

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The Doctrine Branch is proud to announce authentication of the following aviation doctrine training publication. Available today from the Army Publishing Directorate (APD) at: https://armypubs.army.mil

- Training Circular (TC) 3-04.11, “Commander’s Aviation Training and Standardization Program," on April 18, 2022

Look for the following doctrine and training publications pending authentication and available on APD soon:

- Army Training Publication 3-04.6, Change 1, "Air Traffic Services Operations"
- TC 3-04.4, “Fundamentals of Flight”

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Aviation DIGEST

UNITED STATES ARMY

FEBRUARY 1955-VOLUME 1-NUMBER 1

Publication of the ARMY AVIATION DIGEST is another mark of progress in the Army's efforts to achieve a more mobile and versatile fighting force. The vital importance of organic aviation has been proven on the battlefield. The principles governing its application are being constantly evaluated in order to assist the soldier to carry out his vital task of enhancing the security of our Nation. I am confident that the ARMY AVIATION DIGEST will be of great value in stimulating professional military discussion and in disseminating information concerning the increasingly important role of Army Aviation.

M. B. RIDGWAY
General, United States Army
Chief of Staff

From the Past to the Present, we are Here for the Army Aviator. Above the Best!

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The first major revision of Field Manual (FM) 3-0 (Operations) since its rebirth in 2017 will be published in the coming months, so keep an eye out! The 2017 version was the first big pivot in Army doctrine back to a large-scale combat focus, acknowledging that while counterinsurgency had been our bread and butter for almost 2 decades at that point, it wasn't what kept our leaders up at night.

We'll publish a more in-depth article in Aviation Digest once the new FM 3-0 is officially on the streets, focused on what this evolution means for Aviation doctrine. Here are some key points to prepare for:

- The Army's **operational concept** changes from unified land operations to multidomain operations

- The division remains the unit of action, with a focus on multiple corps supporting large-scale combat operations

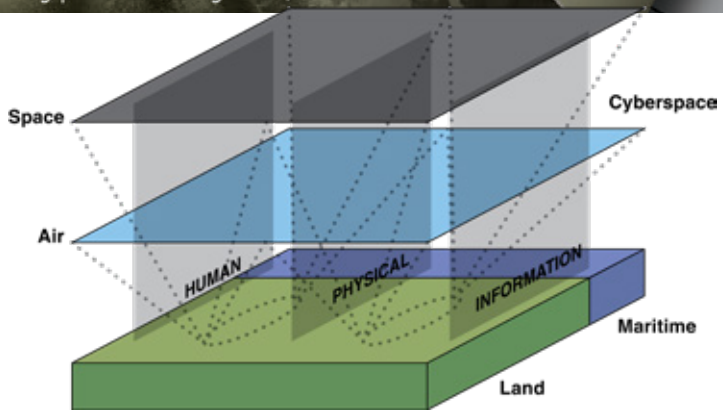

Figure. Operational environment framework. Figure courtesy of the U.S. Army Combined Arms Center

- Clarifies the **operational environment** framework (Figure) into:

  - Five physical domains: air, ground, space, cyberspace, maritime

  - Three dimensions: physical, information, human

- Operations seen in context during competition, crisis, and conflict

- Adds the theater strategic level of war

- Develops new operational:

  - Tenets: agility, convergence, endurance, depth

  - Imperatives: Actions Army forces must take to succeed against peers in all domains, based on contemporary competition and conflict characteristics (there are nine of them)

- Establishes a ninth form of contact: influence

Do not fret, as you do not need to learn an entirely new FM! Most of the core principles and concepts of the FM 3-0 you've learned to love over the past 5 years will look very familiar to you. Terminology and/or proponency for a few dozen terms will be new or modified, but if you understand 2017's FM 3-0, this upcoming version will seem like a logical evolution.

Here's to another step toward Army 2030!

JULIE A. MACKNYGHT
LTC, AV
Tactics Division Chief

Aviation Training Void

A formal course of instruction to prepare aviators for their duties as company and battalion commanders is needed now in order to insure the Army team of the future will have been trained to the fullest possible extent

Lieutenant Colonel Bruce B. Campbell

FIFTEEN YEARS ago there were very few aviation companies in the Army. In fact, there were so few that you could count them on your fingers and still have fingers remaining. The largest aviation command an aviator could expect to receive was an aviation section composed of two to four aircraft and a maximum of 20 personnel. This is not true today. In the Republic of Vietnam (RVN) alone there are in excess of 130 company size aviation units. Additionally, there are approximately 35 aviation battalion headquarters and seven aviation group headquarters. Many of the companies have 31 aircraft and 289 personnel assigned. Some of the companies have a strength of more than 310.

The point is, although the responsibilities of the aviator have increased tremendously over the years, formal training has not kept pace with this increase. Whereas in days gone by an aviator's training in OCS or his branch basic course was adequate for his duties as an aviation section leader, that same training today is completely inadequate for an aviation company commander.

To say that a formal course of instruction should be established to prepare aviators for their duties as company and battalion commanders would not follow a study format, since the subject should be discussed before a conclusion is reached. But, why beat around the bush? A course is needed—*and it is needed now*.

The arguments against advanced aviation training will be long and heated. In all probability they will commence with the statement that such training would lead to an aviation branch. This argument is supposed to stop all discussion of the subject, so let's drop the subject of a separate branch and proceed to the matter of schooling.

Nearly all newly commissioned officers will attend or have attended a basic officers course which give them a knowledge of their basic branch. For the Infantry officer this starts with the squad, works up through the company and touches on battalion and brigade. The same coverage is provided Artillery and Armor officers.

At some point, the officer is programed to attend an advanced course where he learns the essential elements of commanding a battalion and receives additional instruction on brigade or divarty operations. In both of these courses he learns what the commander expects of his staff and this is the important training. The truly outstanding commander must know his staff and what to expect from it.

Where does the Army aviator receive this training? His formal aviation training ceases when he puts on his wings. Oh yes, he may return to an aviation course to become qualified in another aircraft, but is taught nothing about how to utilize a staff or what to expect from it. This knowledge is supposed to come from his career course.

Many contend that all staff elements function basically the same. This is true, but the commander who is willing to permit his staff to function on basic information and basic principles will soon go down in defeat. This has been recognized for years and separate career schools have been established by the different branches to teach something more than basics.

Imagine a young Infantry captain being thrown into an Artillery battalion as the fire direction officer just prior to a combat operation in which success depends on adequate fire support. The commanders participating in this operation would have every reason to be concerned.

Let's take another example. Suppose you are not an aviator. You have been assigned as S-3 of a combat aviation battalion which is stationed in Long Ann Province.

This article reflects the views of the author and does not necessarily represent those of the Department of the Army or the U. S. Army Aviation School

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Three days after you arrive, a mission is received from the Airspace Coordinating Element for your battalion to support an operation in War Zone D the following day. The battalion commander is not available to issue his concept of the operation. Could you handle the problem? Basically your actions would be the same as if you were in any other battalion, but what about such specifics as the number of aircraft needed, takeoff time, fuel requirements, PZ and LZ size, allowable cargo load and maintenance support?

There are many other items which you will be expected to know and for the most part you have received as much formal training as the aviation battalion S-3 currently serving in RVN. The difference is that he has gained the rest of the required knowledge through on-the-job-training, which is no way to run a multimillion dollar operation.

The career courses of the Armor, Artillery and Infantry branches go into detail on combined operations utilizing the three branches. The Army aviator who attends these courses learns how to employ armor, infantry and artillery, but his counterparts learn very little about the employment of Army aviation. The subject of airmobile operations is brushed over lightly in spite of the fact that few operations in RVN have been conducted since 1966 without Army aviation support.

The Army aviator has learned his job in RVN well. But what about after Vietnam? Will he have the opportunity to learn the intricacies of an airmobile operation? Probably not. Company and battalion airmobile operations are expensive in peacetime and will therefore be the exception rather than the rule. Consequently, much of the expertise will be lost within five years after hostilities cease in Vietnam.

Since on-the-job-training only can be accomplished when the job is being done, and because large scale airmobile operations will be few and far between during peacetime, it would appear that a formal school similar to a career course should be established for Army aviators. This school would be on a par with the career courses of the aviator's basic branch. Armor, artillery and infantry subjects should be covered in the same detal as at the current branch career courses, i.e., infantry subjects taught at the artillery and armor schools would also be taught at the aviation career school, etc. By the same token a comparable amount of time would be utilized at the armor, artillery and infantry schools on aviation subjects.

The establishment of this training would insure that all officers of the combat arms will have a working knowledge of each combat arm. Also, it would insure that expertise gained in RVN and future conflicts will not be lost.

Further, an aviation career school would result in additional advantages which may outweigh the direct benefits. Officers assigned as instructors in the aviation career course would be from all combat arms and include aviators and nonaviators. The nonrated officers would learn the capabilities and limitations of aviation and as a result be better equipped to move into combat operations. Aviator instructors would realize that aviation is truly a part of the Army and not just a side line. They would realize that aviation training does equip them for other jobs in the Army and that their allegiance to the Army can be through aviation.

Most important, an aviation career course would insure that the Army team which enters the next conflict will be the best, because it will have been trained to the fullest possible extent. This team will have been trained to work as a team by the best instructors available utilizing the most advanced techniques. Only in this way can we be assured that a team, fielded in 10 to 15 years, can and will function as a team.

N-4 Down: The Hunt for the Arctic Airship Italia

Author: Mark Piesing; Custom House; 2021, 428 pages

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

Triumphantly returning from the North Pole on May 24, 1928, the world-famous exploring airship–code named N4–was struck by a terrible storm and crashed somewhere over the Arctic ice, trigging the largest international polar rescue mission in history. Helping lead the search was Roald Amundsen, the Pole's greatest explorer, who himself soon went missing in the frozen northern wastelands between Europe and the North Pole. In a story that rivals the successful attempt to save the *Apollo 13* astronauts, *N-4 Down* tells the unforgettable true story of what happened when the glamour and daring of early aviation exploration collided with the limits of 1920's aeronautical technology and the harsh realities of one of earth's most extreme environments.

Following the First World War, the nascent era of modern aviation was growing, and two competing technologies were racing to become the dominant form of air travel around the globe—airplanes and airships. The airplane had proven its worth over the battlefields of Europe but was still limited in carrying capacity, range, and reliability. The airship, on the other hand, offered the much-desired ability to carry both large numbers of passengers and cargo (as compared to the airplane) over large distances but was also challenged by their designers' use of helium and hydrogen lifting gases. In the 1920s, while airplanes were astounding audiences at airshows and in the movies with their maneuverability and speed, it was the airship that was breaking both endurance and range records still unattainable by early airplanes. Weimar Germany's luxurious *Graf Zeppelin* was running regular passenger service from Germany to Brazil, Great Britain was in the early stages of the British Imperial Airship Scheme that would connect the empire with *His Majesty's Airship R100* and the *R101* airship, and the United States Navy was developing long-range military airships, like the USS *Shenandoah* and *Los Angeles*, to serve both as the "eyes" of the surface fleet and had the capacity to act as "flying" aircraft carriers able to deploy small, short-range fighters and reconnaissance airplanes.

Fascist Italy, not to be outdone, joined the airship race with its own fleet of airships capable of long-distance travel. To enhance both Italy's global prestige and contribute to the science of air travel, Italian dictator, Benito Mussolini, authorized Italian airshipmen, led by Colonel Umberto Nobile, to team up with Arctic explorers—Norwegian, Roald Amundsen, and American, Lincoln Ellsworth—to make, in what was later proven to be, the first successful flight over the North Pole in the Italian airship N-1 *Norge,* in 1926. Two years later, in a desire to prove Italy could go it alone and actually land on the North Pole, General Nobile made another attempt at the pole in the N-4 *Italia*, only to end in disaster after being blown off course and crashing on the ice out of radio communications with the rest of the world. The attempt to rescue the stranded airshipmen using both airplanes and ships in what was to become an international effort, is the foundation of Mark Piesing's *N-4 Down*.

For readers who enjoy a compelling story of man against the elements and himself, and for those who want insights about the limits of any new technology when pushed to the edge, *N-4 Down* provides both. The author does a masterful job of weaving a story that combines the race to be the first man to successfully fly and land on the North Pole, 1920's aviation technologies, and the geopolitical situation in Europe following the First World War. Drawing from a number of primary resources and previously unpublished documents, Mr. Piesing's story of innovation, daring, hubris, and betrayal provide a detailed account of one of the biggest news stories of the age prior to the 1929 stock market crash. For many military readers, *N-4 Down* also provides a useful insight into the complexities and challenges of international or "coalition" type operations, highlighting factors like interoperability and how politics play in such endeavors.

N-4 Down is both insightful, timely, and highly recommended to a diverse group of readers. As the dawn of a new interplanetary race begins with competitors like SpaceX and Virgin Galactic attempting to open the high ground of space to private enterprise, the technological limitations

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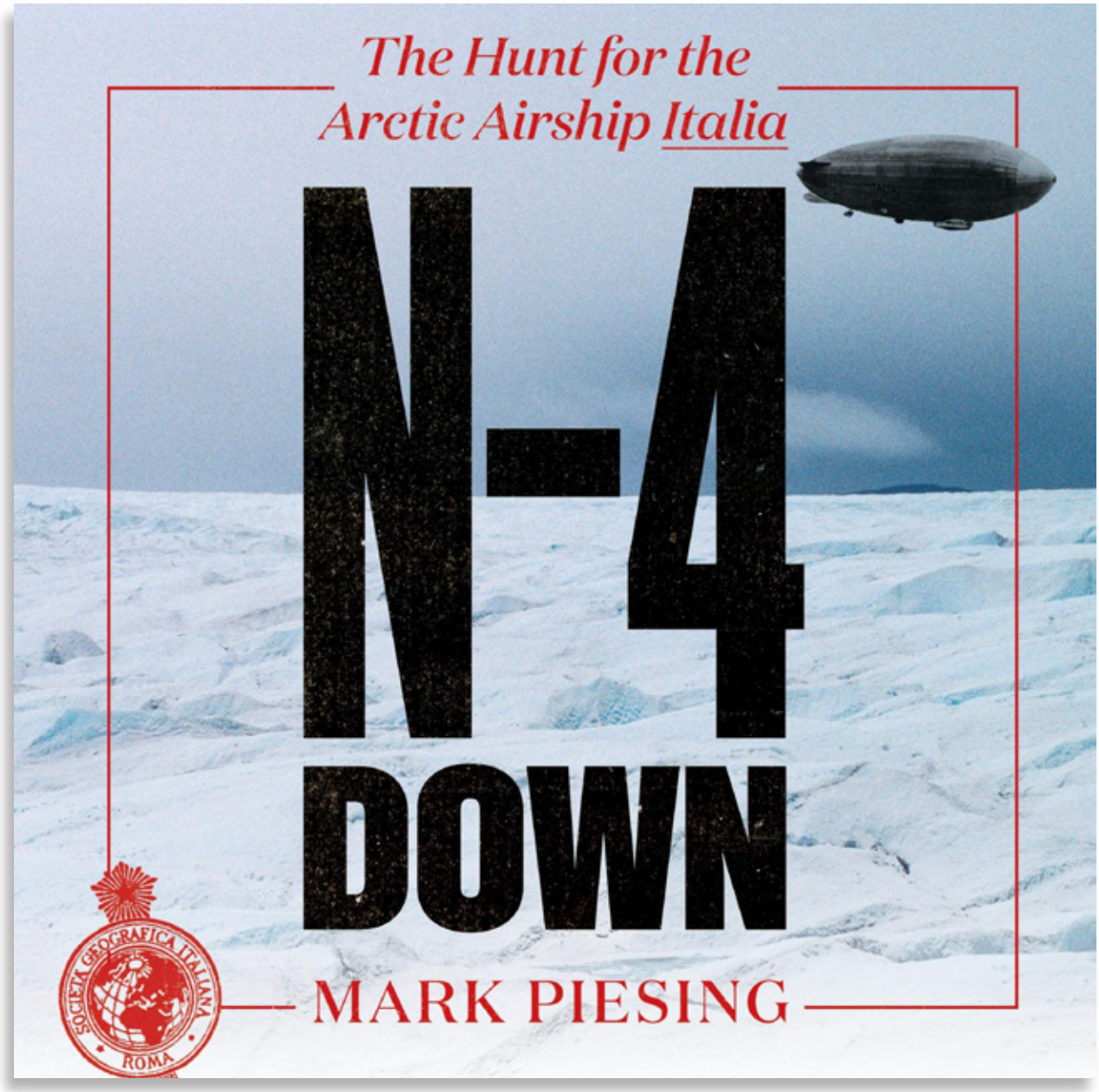
of commercial manned-space travel to low Earth orbit, the Moon, and Mars may see a similar crisis unfold in the future. The lessons learned from *N-4 Down* may provide important insights for another generation of men and women pushing the boundaries of a new technology in an unforgiving environment.



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Connecticut Army Aviators. U.S. Army photo by SGT Matthew Lucibello

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Write for *Aviation Digest*!

Focus Topic: Leadership and Leader Development
October-December 2022
(published on or about November 15, 2022)

Focus Topic: Mastering the Fundamentals
January-March 2023
(published on or about February 15, 2023)

Along with articles corresponding to the listed focus topics, the *Digest* is always receptive to letters to the editor, leadership articles, professional book reviews, anything dealing with the aviation 7-core competencies, training center rotation preparation, and other aviation-related articles.

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