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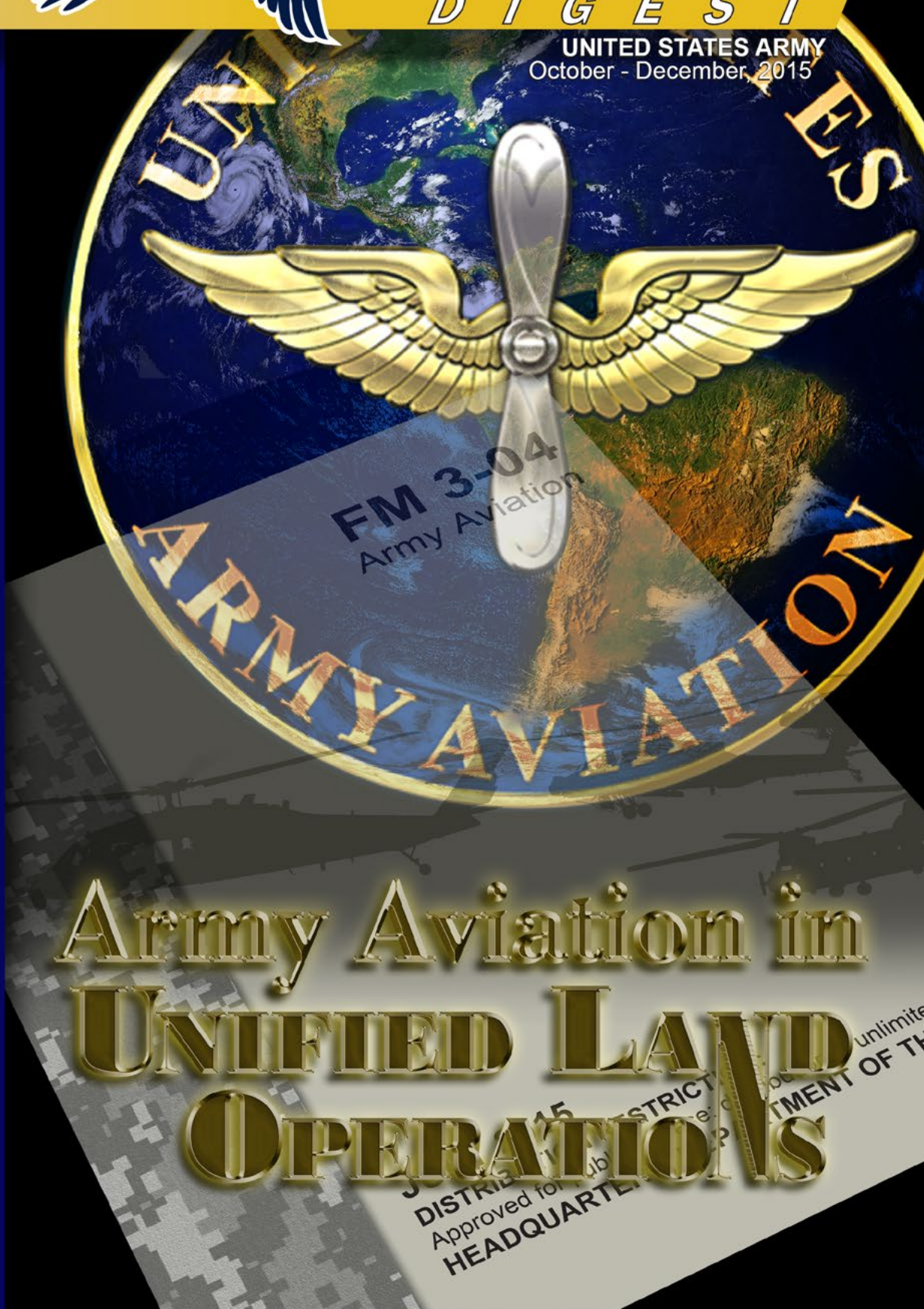

Army Aviation in Unified Land Operations

UNITED STATES ARMY
Aviation Digest
October - December 2015
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ABOUT THE COVER

We introduce the capstone doctrinal publication - Field Manual 3-04, Army Aviation.

The Command Corner

"Every battle is won before it is fought." - Sun Tzu

Army Aviation provides the nation an asymmetric advantage, without peer in scale or capability, focused on providing the air-ground team the required mobility, lethality, survivability, and situational understanding to win in an increasingly complex world. As part of the joint combined arms team, Army Aviation presents the enemy with multiple dilemmas in time, space, and tempo, enabling it to conduct decisive action operations with multiple options to seize, retain, and exploit the initiative by attacking the enemy from multiple directions at times, locations, and at a tempo of the ground maneuver commander's choosing. By conducting effective air-ground operations, Army Aviation is fully integrated in unified land operations and best positioned to support the ground commander.

As Aviation's capstone doctrine, Field Manual (FM) 3-04 describes how we operate as a member of the combined arms team executing unified land operations and setting the foundation and direction for training and leader development for the branch. Mastery of this doctrine and the unit training management process is critical to planning, resourcing, executing, and assessing a focused, comprehensive training plan that enables decisive action readiness for individuals, crews, leaders and each collective echelon from platoon to brigade. Tough, realistic training is paramount; and leaders at all levels must drive rigorous mission essential task list focused training to improve our ability to operate as a member of the combined arms team. With the release of FM 3-04, leaders must make a fundamental transition from training counter insurgency to training unified land operations doctrine to enable the execution of simultaneous offensive, defensive and stability operations so we can win against a wide range of hybrid threats in highly complex operational environments. This must also be underpinned by leaders continuously conducting objective assessments of training readiness and accurately reporting to inform and drive resourcing in a constrained environment.

Aviation will face multiple challenges as we continue to transition our training focus and work through the realities of fiscal constraints while maintaining a high operational tempo. Engaged leaders who exercise disciplined initiative and maximize the tremendous talent in our branch will enable us to hone the already sharp edge that commanders and Soldiers on the ground have come to expect from Army Aviation. As each of you train at home station, combat training centers, and while deployed, I ask you to share your successes and challenges so the Aviation Enterprise can continue to innovate and win.

ABOVE THE BEST!

Mike Lundy
Major General, USA Commanding

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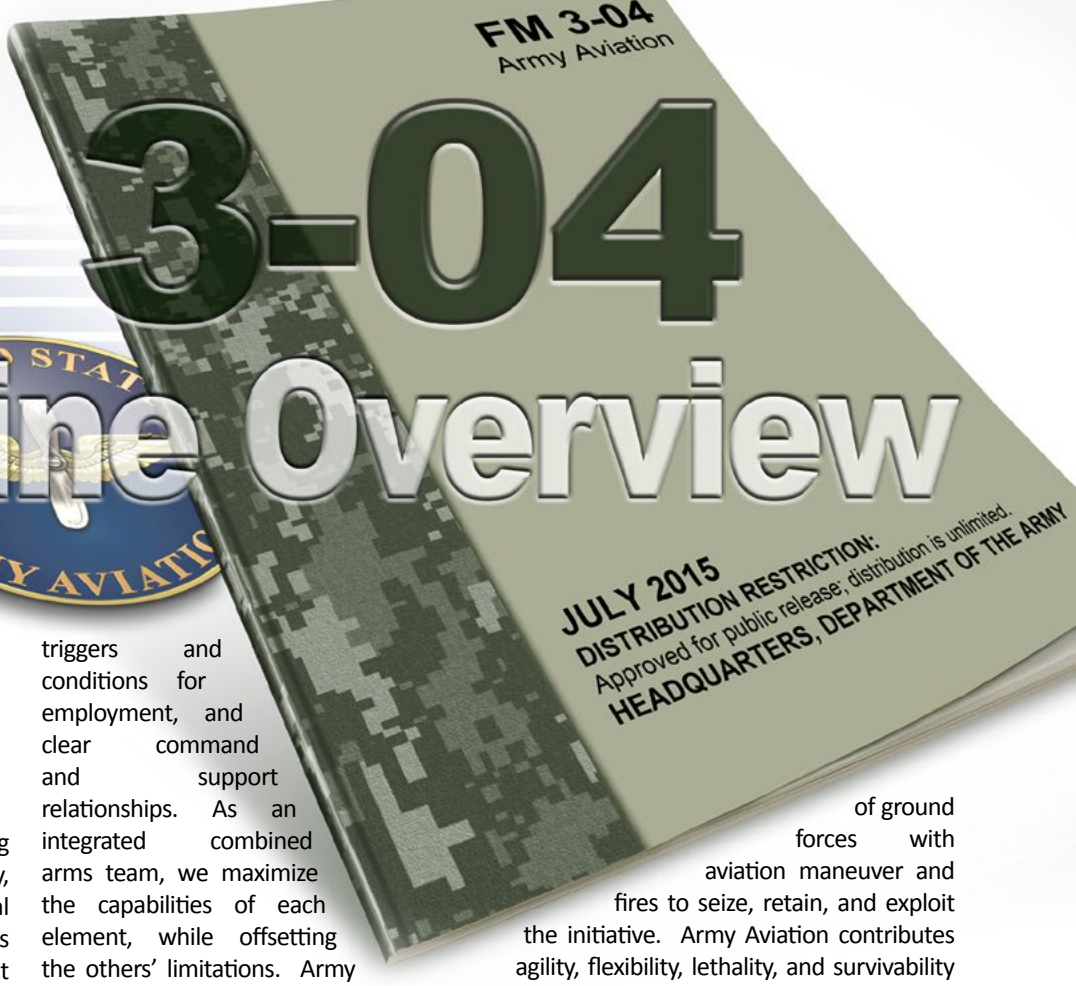
FM 3-04 Doctrine Overview



By LTC Richard R. Coyle

Doctrine provides fundamental principals, a common frame of reference, a common professional language, and a coherent vision of warfare.

Integral to the U.S. Army Operating Concept (AOC) is the mobility, lethality, protection, survivability, and situational understanding that Army Aviation provides to the joint air-ground team and combatant commanders. Utilizing the third dimension of the battlefield, we deliver a lethal and mobile asymmetric advantage that allows our Army to maneuver across wide areas, attack from multiple directions, and present the enemy with numerous dilemmas, empowering our ability to win in an increasingly complex world. Army Aviation facilitates all the warfighting functions and pr ovides capability to overcome the warfighting challenges. *Field Manual (FM) 3-04, Army Aviation*, is our capstone doctrinal publication. It is intended to provide the context for employing and integrating Army Aviation into unified land operations and provides a foundation for subordinate training, doctrine, professional military education, leader development, and individual and collective training. It also describes our organizations and our capabilities. *FM 3-04* focuses on the employment of Army Aviation through air-ground operations.

Army Aviation is a fully integrated component of the ground maneuver force. We achieve interdependence through a shared understanding of the operational environment and commander's intent, an integrated or synchronized scheme of maneuver and fires, clearly defined triggers and conditions for employment, and clear command and support relationships. As an integrated combined arms team, we maximize the capabilities of each element, while offsetting the others' limitations. Army Aviation's inherent mobility, speed, range, flexibility, lethality, precision, and persistent reconnaissance capabilities provide the combined arms team with multiple options to seize, retain, and exploit the initiative to gain a position of advantage over the enemy through the seven core competencies of Army Aviation. These competencies, described in Chapter 1, *"Army Aviation's Role in Unified Land Operations,"* are indispensable to the AOC and include: provide accurate and timely information collection; provide reaction time and maneuver space; destroy, defeat, disrupt, divert, or delay enemy forces; air assault ground maneuver forces; air movement of personnel, equipment, and supplies; evacuate wounded and recover isolated personnel; and enable mission command over extended ranges and complex terrain. The shared understanding and mutual trust of each member of the combined arms team is established and maintained through habitual training, persistent liaison, collaborative planning and preparation, known standardized procedures, and effective combined mission briefs and rehearsals.

Air-ground operations is defined as the simultaneous or synchronized employment of ground forces with aviation maneuver and fires to seize, retain, and exploit the initiative. Army Aviation contributes agility, flexibility, lethality, and survivability to the ground scheme of maneuver. Simultaneity and synchronization are the key elements of air-ground operations in combined arms maneuver and it is essential that aviation operations are planned and integrated from the inception of a combined arms operation.

The three Army doctrinal operational frameworks – operations in the deep, close, and security areas; decisive, shaping, and sustaining operations; or main and supporting efforts are used by the aviation commander to visualize how Army Aviation operates in time, space, and purpose. The commander will use these frameworks, either individually or in combination, to describe and visualize the battlefield.

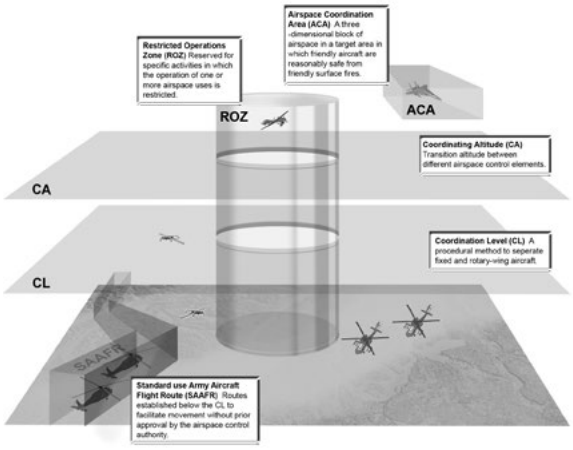
The operational environment is complex and constantly changing. The threat encompasses a wide range of actors, entities, and a combination of regular, irregular, terrorist, and/or criminal forces that employ traditional, unconventional, and hybrid tactics to achieve an asymmetric advantage. Threats to Army Aviation include small arms, anti-aircraft artillery, man-portable air defense systems, surface-to-air missiles, anti-helicopter mines, anti-tank guided missiles, and more. Due to weapons

proliferation and the availability of relatively low cost emerging technologies the threat continues to change. The various physical environments; mountain, desert, jungle, maritime, and urban present multiple employment opportunities, challenges, and considerations for our crews, staffs, equipment, and airframes.

Field Manual 3-04 describes the organizations that will comprise Army Aviation at the completion of the Army Aviation Restructuring Initiative across the Active Component, Army National Guard, and U.S. Army Reserve. There are six brigade and group level formations and eight battalion formations. The brigade-level aviation organizations include; combat aviation brigades, expeditionary combat aviation brigades, theater aviation brigades (assault), and theater aviation brigades (general support). The enabling group-level aviation organizations are comprised of the theater airfield operations group and the theater aviation sustainment maintenance group. The battalion and squadron level formations consist of the attack reconnaissance squadron, attack reconnaissance battalion, assault helicopter battalion, general support aviation battalion, aviation support battalion, security and support battalion, the airfield operations battalion, and the theater fixed-wing battalion. Beyond describing organization purpose and capabilities, chapter 2 defines command and support relationships, discusses aviation command posts, the aviation special staff, the brigade aviation element, and liaison teams. The chapter concludes by presenting the detailed planning paramount to the simultaneous utilization of airspace by multiple users, the coordination between airspace elements, positive and procedural controls, various airspace control measures, and the integration of manned and unmanned aircraft.

The integrated maneuver of Army Aviation rotary wing and unmanned aircraft systems (UAS) to conduct movement to contact, attack, reconnaissance, and security tasks defines manned-unmanned teaming (MUM-T). Manned-unmanned teaming enables increased depth and breadth of Aviation reconnaissance and maneuver, longer persistence over the reconnaissance objective, increased ability to gain and maintain enemy contact, greater survivability, and more options to develop the situation with enhanced maneuver, fires, and mission command. It is imperative that aviation and ground component leaders embrace the opportunities inherent to MUM-T and integrate UAS to facilitate the execution of our core competencies.

Chapter 3 describes the tactical tasks Army Aviation conducts while executing air-ground operations in support of ground forces conducting offensive, defensive, stability, and defense support to civil authorities operations. Through the tactical, enabling, and sustaining tasks; movement to contact, attack, reconnaissance, security, air assault, mission command support, personnel recovery, air movement, and aeromedical evacuation; we execute our seven core competencies. These tasks enable the combined arms team to gain and maintain situational understanding, control operational tempo, gain a position of advantage, and/or prevent the enemy from gaining a position of relative advantage, present the enemy with multiple dilemmas, achieve the element of surprise, and exploit the initiative by attacking the enemy at the time and place of our choosing.



We no longer use the terms close combat attack or interdiction attack. Army Aviation conducts attacks where the enemy may be in contact or out of contact with friendly ground forces. Based on the time available to plan, prepare, and execute; attacks could be hasty or deliberate. These attacks may be in the deep, close, or security areas.

Our capstone doctrine also discusses the application of sustainment principles, aviation maintenance concepts, and those personnel integral to the execution of effective sustainment operations in a complex environment. How we care for personnel, maintain equipment, fuel, and arm our systems is paramount to our ability to support the joint combined arms team. *Field Manual 3-04* concludes by providing characteristics, specifications, and capabilities with regards to the aircraft, armament, and air traffic services systems that comprise our Aviation formations.

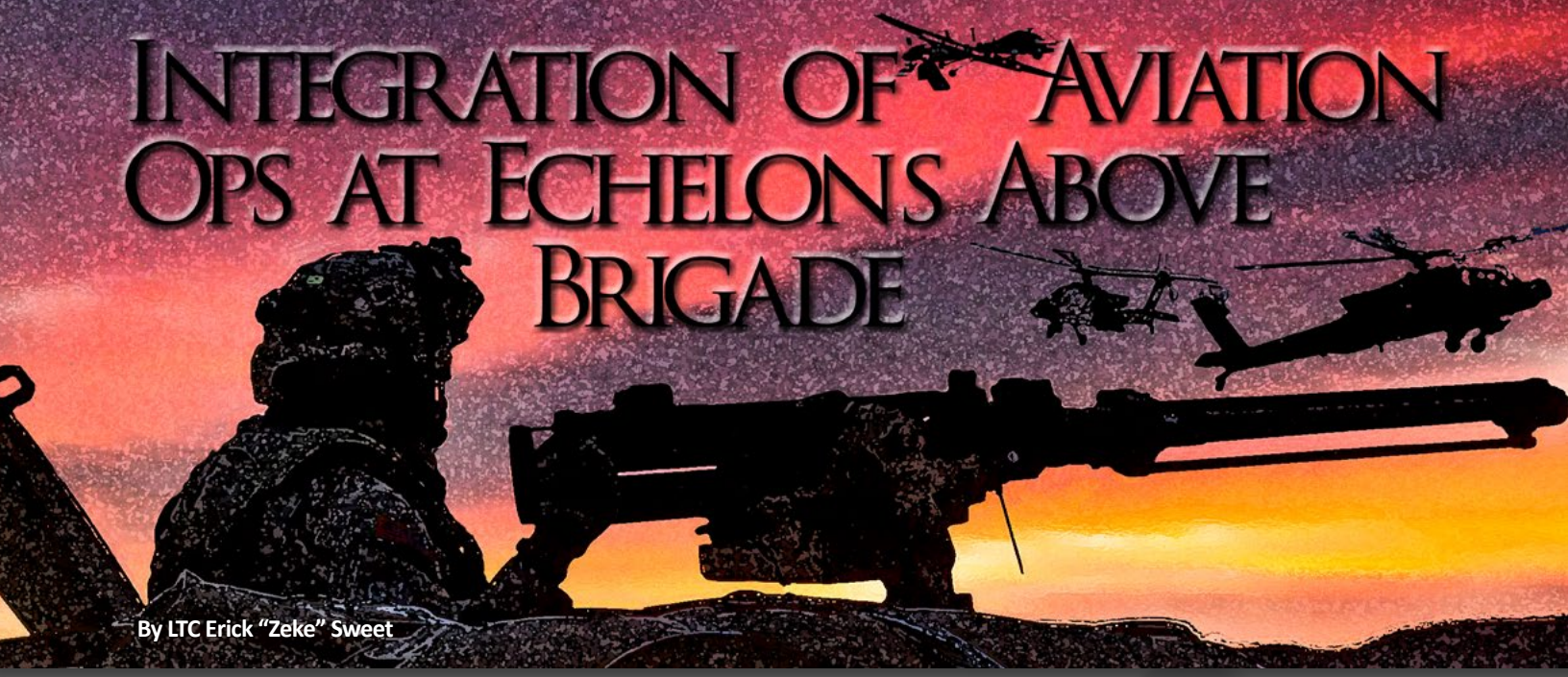
For over 50 years, Army Aviation has proven to be an essential capability inherent to combined arms maneuver. Our branch provides the Nation an asymmetric advantage, without peer in scale or capability, focused on providing the joint combined arms team the required mobility, lethality, survivability, and situational understanding to seize, retain, and exploit the initiative. We use doctrine to enlighten and facilitate communication across the Army. The doctrinal foundation provided by *FM 3-04, Army Aviation*, provides the context for employing our formations and informs the future of our branch. Your understanding and application of the overarching principles contained in *FM 3-04* will guarantee our Army's ability to overcome challenges and dominate in any operational environment.

LTC Richard R. Coyle is currently assigned to the Directorate of Training and Doctrine, as the Chief of Doctrine and Tactics at the United States Army Aviation Center of Excellence. LTC Coyle has served with the 1st Cavalry Division, 2nd Armored Cavalry Regiment, at the Joint Readiness Training Center, 8th Army, the 25th Infantry Division, and the 101st Airborne Division (Air Assault). He has deployed to Bosnia and twice to Iraq. Most recently, LTC Coyle commanded the 7th Squadron, 17th Cavalry Regiment at Fort Campbell, KY. He has 20 years of service and is qualified in the OH-58 A/C and D.

Acronym Reference

AOC - Army Operating Concept	**MUM-T** - manned-unmanned teaming
FM - field manual	**UAS** - unmanned aircraft system

Integration of Aviation Ops at Echelons Above Brigade



By LTC Erick "Zeke" Sweet

The combat aviation brigade (CAB) commander walked into the command post. "How are we looking?" he asked. The brigade operations officer was staring at the common operational picture on the large screen and said, "Sir, we are having a hard time understanding exactly when and where the division artillery rocket strike will occur in our proposed engagement area. We are not sure if and how it will affect our AH-64 helicopter attack in the deep area or if those same tubes will be available for our suppression of enemy air defense plan. We are not sure if there is any method to track their battle damage assessment with collection assets to see if our attack is even necessary. Our own Gray Eagles have been allocated to collect on the northern flank, well away from our AH-64 flight route so they are not available to assist." The CAB commander looked puzzled, and asked, "Well, what does division say?" The operations officer looked at his boots and said, "Sir, they are not really tracking either event closely and asked us to coordinate directly with DIVARTY and the division intelligence officer." The CAB Commander sighed and said, "Get on the phone with division and let's figure this out."

While the vignette is fictitious, it represents multiple scenarios that played out during warfighter exercises (WFX) in recent months. As the Army re-orients on decisive action (DA) operations after nearly 15 years of counter-insurgency (COIN) focus, headquarters at all levels are forced to adapt to the pace and complexity of fighting near-peer threats. Adding friction to the COIN to DA transition is a lack of DA experience and doctrine that can guide less experienced war fighters. While the Army is quickly producing doctrine to better orient its focus on DA, such as the newly published *FM 3-04, Army Aviation*, commanders must train their staffs and formations now to achieve mission success in a DA environment.[1] More specifically, division and corps staffs must recognize their role in setting conditions for mission success through detailed planning, synchronization, and integration of division assets. So far, division and corps staffs are struggling to synchronize and integrate assets in time and space to achieve decisive effects in a DA environment, but they are learning fast and improving quickly.

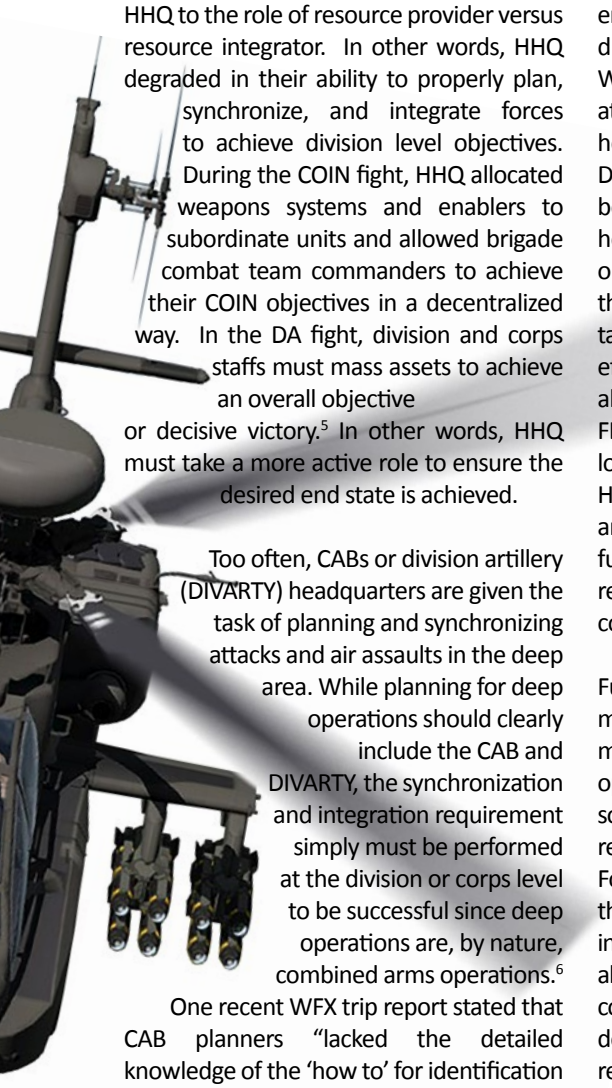
This dynamic is obvious in the employment of Army Aviation and CAB assets in support of division and corps operations. Synchronization of air-ground operations (AGO) across the operational construct by higher headquarters (HHQ) has been a challenge, resulting in a general lack of integration across all war fighting functions (WFF). Specifically, Mission Command Training Program (MCTP) Observer, Coach and Trainers (OC/T) at recent WFX observed three trends that degrade effective AGO in support of division and HHQ: synchronization of operations in the deep area, integrated targeting at the division and higher level, and tasking and employment of the Gray Eagle unmanned aircraft system (UAS).

Synchronization of Operations in the Deep Area

As divisions and corps staffs plan for operations in the deep area, many are challenged to define the roles of planning, synchronizing, and integrating subordinate units and joint/Army enablers. *Army Doctrine Publication 5-0, The Operations Process*, defines planning as, "The art and science of understanding a situation, envisioning a desired future, and laying out effective ways of bringing that future about."[2] In other words, understand the fight, decide how you want to execute that fight, and then emplace plans that make it so. *Joint Publication (JP) 2-0, Joint Intelligence* and *Army Doctrine Reference Publication* (ADRP) *3-0 Unified Land Operations*, both define synchronization as, "the arrangement of military actions in time, space, and purpose to produce maximum relative combat power at a decisive place and time."[3] This speaks to the ability of HHQ to mass their forces to achieve the desired effect or victory. Lastly, *JP 1-02 Department of Defense Dictionary of Military and Associated Terms* defines integration as, "the arrangement of military forces and their actions to create a force that operates by engaging as a whole."[4] By this

definition, HHQ integrate subordinate units and capabilities together, thus ensuring mission success. These three definitions are different, but all speak to a common theme: How can division and corps staffs plan, synchronize, and integrate operations to achieve overwhelming force at the critical place and time? In other words, how do they mass together to achieve victory? This is a concept that HHQ have struggled with in recent WFX.

These struggles are not surprising since nearly 15 years of COIN focus relegated HHQ to the role of resource provider versus resource integrator. In other words, HHQ degraded in their ability to properly plan, synchronize, and integrate forces to achieve division level objectives. During the COIN fight, HHQ allocated weapons systems and enablers to subordinate units and allowed brigade combat team commanders to achieve their COIN objectives in a decentralized way. In the DA fight, division and corps staffs must mass assets to achieve an overall objective or decisive victory.[5] In other words, HHQ must take a more active role to ensure the desired end state is achieved.



Too often, CABs or division artillery (DIVARTY) headquarters are given the task of planning and synchronizing attacks and air assaults in the deep area. While planning for deep operations should clearly include the CAB and DIVARTY, the synchronization and integration requirement simply must be performed at the division or corps level to be successful since deep operations are, by nature, combined arms operations.[6]

One recent WFX trip report stated that CAB planners "lacked the detailed knowledge of the 'how to' for identification and synchronization of assets needed to successfully execute cross forward line of own troops (FLOT) operations";[7] a testament to the required involvement of division and higher staffs. Additionally, when challenges occur forward of the FLOT, the division or corps may be the only headquarters with assets that can assist[8] such as long range UAS, long range fires, close air support (CAS), forward special operations forces elements, and joint personnel recovery capabilities. Thus, HHQ must serve as force integrators to effectively plan and execute operations in the deep area.

For example, *FM 3-04*, states that when the deep, close and rear operational framework is used, "Deep operations involve efforts to prevent uncommitted enemy forces from being committed in a coherent manner."[9] In other words, an AH-64 attack in the deep area against enemy forces out of friendly contact[10] helps ensure uncommitted enemy forces such as fires assets or an enemy reserve are rendered ineffective during future operations. During recent WFX, the division delegated the AH-64 attack planning and execution to the CAB headquarters, with a request that the DIVARTY headquarters assist. Despite the best efforts of both the CAB and DIVARTY headquarters, little was done to collect on the targeted formations to ensure the mission would destroy the desired target arrays. Additionally, HHQ failed to effectively reduce or degrade the enemy's ability to affect friendly aircraft crossing the FLOT. The result was high friendly aircraft losses and limited enemy destruction.[11] Had the division staff better integrated and synchronized across all war fighting functions, mission risk could have been reduced and probability of mission success could have soared.

Furthermore, the division headquarters might consider resurrecting an old doctrinal mission command entity called the deep operations coordination cell (DOCC), or something similar, to better integrate and resource operations in the deep area.[12] Focused on planning more than execution,[13] the DOCC could fit into the existing targeting infrastructure and could serve to integrate all entities operating in the deep area. This could further help the HHQ assess if the deep operation is worth the risk to reap the rewards. This, in turn, helps ensure effective use of available assets. [14]

In concert, division and corps staffs can plan and synchronize across all war fighting functions to reduce risk to mission and risk to the force. In so doing, the HHQ staff sets conditions for a successful attack. This is important because the HHQ's ability to synchronize the deep fight allows them to dictate the terms for the close fight in the near term. In short, kill the enemy deep and the close fight becomes easier.[15] It also provides opportunities that friendly forces can exploit to gain and maintain the initiative. Thus, HHQ active planning, synchronization, and integration greatly enhances friendly chances for victory.

Integrated Targeting at the Division and Higher Level

Another key trend affecting AGO at higher level headquarters is a lack of integration during the targeting cycle. *ADRP 3-09, Fires*, outlines four key tenants of targeting methodology: decide, detect, deliver, and assess. These tenants are also known as D3A.[16] The decide, detect and assess aspects each require dedicated collection capability to succeed as they are central to the selection and location of the target, and subsequent after action assessment to verify destruction.

During recent WFX, the division often excluded the CAB from the division or corps targeting process. In most cases, both the division and CAB bore responsibility for this oversight. In these instances, the CAB was often seen as an executor, versus a critical nominator of targets in the D3A methodology.[17] On a larger scale, a lack of synchronized and integrated D3A targeting between the division staff, DIVARTY and CAB resulted in poorly executed shaping or deep operations. In turn, enemy reserves, fires assets, and critical enablers were effective in thwarting friendly offensive operations. Specific to AGO, targeting is tied closely to attack and air assault operations, and a lack of inclusion in the targeting process produced three key issues.

First, a failure by the CAB to effectively nominate intelligence, surveillance, and reconnaissance (ISR) and target collection objectives to reduce risk and reduce enemy formations prevented effective attacks and air assaults. Too often, attacks would fly to a center of mass grid of an enemy formation with little confirmation of the actual array on the ground for key weapon systems such as air defense artillery (ADA), armor, or fires tube/rockets.[18] In other words, the detect aspect of D3A was poorly developed.

Unmanned aircraft systems and other collection assets are often controlled by the G-2 collection manager, and those assets are not always synched with the targeting process to ensure proper target development and refinement. It raises the question: Who is responsible for balancing collection requirements to ensure proper reconnaissance, surveillance, targeting and acquisition occurs?[19] Does the G-2 own both intelligence collection for answering priority information requirements (PIR) and target acquisition? Is the G-3 overall responsible? DIVARTY? The targeting working group? In addition to servicing named areas of interest (NAI) to confirm or deny PIR, collection assets could provide crucial target refinement to better drive planning and execution of high risk, cross FLOT operations. However, the synchronization of those scarce resources must occur at the division or corps level. Even with organic Gray Eagle UAS, CABs experienced difficulty in developing detailed targeting data to drive planning and execution of attacks and air assaults. The end result was that offensive operations by CABs and DIVARTY often fell short of their intended end state, and critical enemy units that were designated as high payoff targets and high value targets remained combat effective.[20] These enemy forces reared their heads at inopportune times for friendly forces, and they often significantly increased the mission risk for vulnerable aviation assets operating cross FLOT. The CAB clearly bears a responsibility to nominate targets and push to continuously refine those targets before and during execution. The division bears a responsibility to ensure that high risk missions such as an air assault to seize key terrain is afforded the appropriate priority for collection and target refinement.[21] Together, the overall effects of an integrated targeting and collection plan can significantly improve the tactical and operational outcome. Secondly, some division staffs are continuing to allocate collection assets to subordinate units by percentage. In other words, instead of prioritizing collection and targeting assets based on division and corps level objectives, staffs are still allocating off the old COIN model which apportioned collection assets to subordinate units and those units dictated in the collection plan for their piece of the pie.[22] During operations where a synchronized approach is required to ensure reduced risk and mission success, percentage apportionment is sometimes counterproductive, especially when the CAB is not apportioned any significant collection priority at all. The danger is that few assets are prioritized to develop target arrays, to confirm or deny enemy formations able to affect flight routes, or to ensure an attack is even needed based on the success of previous shaping operations by CAS and fires. In other words, HHQ are degrading the D3A targeting methodology. This could result in launching assets cross FLOT into an underdeveloped enemy situation. The results are often less than optimal.

Third and lastly, collection assets seldom conduct post attack battle damage assessment (BDA) collection during the assess portion of D3A. The result was that enemy formations were either more capable than anticipated when the wet gap crossing occurred, or assets were allocated to attack enemy formations that were already rendered combat ineffective. Division and higher staffs must recognize that all aspects of the targeting cycle are important and that they feed the next round of target nominations. Thus, post attack BDA is crucial in feeding the next round of target nominations. For example, an air assault cross FLOT to secure key or decisive terrain may require a shaping attack by AH-64s to assist in achieving acceptable go-no-go criteria. If the attack occurs and the aircrews report BDA that reduces the threat to acceptable levels, but no further collection is allocated to validate those reports, the air assault runs the risk of encountering a far more capable enemy on the landing zones than previously believed. Successful post-attack BDA can better feed the targeting process resulting in reduced risk and more efficient use of limited combat resources such as Army Aviation.

The good news is that in at least two war fighters, the division staff and leadership recognized the importance of inclusive targeting during the WFX. They were able to better include the CAB and other key targeting players to achieve a more synergistic effect

throughout the targeting cycle. Once the division level staffs synchronized and integrated the targeting process, division assets achieved more lethal effects, which helped shape the close fight to a more manageable level.[23] Higher level staffs are learning the right lessons and implementing standard operating procedures to achieve mission success.

Tasking and Employment of Gray Eagle UAS

The last significant trend observed by MCTP OC/T involves employment of the Gray Eagle UAS. In most cases, division staffs employed the Gray Eagle in a traditional ISR only role. In other divisions, it was used as a precision attack platform, trolling the battlefield for targets and engaging them quickly.[24] Both roles were effective in their own way, but may not have used the Gray Eagle to its full potential.

Besides pure ISR and precision attack, a third use for the Gray Eagle is manned-unmanned teaming (MUM-T) with the AH-64D/E. *Field Manual 3-04* defines MUM-T as, "The integrated maneuver of Army aviation rotary wing and UAS to conduct movement to contact, attack, reconnaissance, and security tasks."[25] More specifically, MUM-T allows AH-64E aircrews to receive UAS feeds in the cockpit and integrate the AH-64 laser guided munitions with Gray Eagle lasers. This produces stand off and reduces risk to manned aircraft. AH-64 crews can also observe CAS or indirect fires using the UAS feeds, reducing the risk of fratricide and improving fires effects through effective target observation. When employed in advance of a cross FLOT attack or joint air attack team (JAAT), MUM-T allows the AH-64 unit to fly Gray Eagle forward of friendly flight routes to identify and reduce enemy threats to the advancing AH-64 or CAS aircraft. The result is twofold: reduced risk friendly aircraft and greater probability of attack/JAAT mission success. However, division staffs have been reluctant to use the Gray Eagle in this way, largely due to a lack of familiarity with this proven tactic, technique and procedure. Thus, CABs must better educate division and corps leaders and staffs on the capabilities and employment roles of the Gray Eagle, particularly the benefits of using the Gray Eagle in the MUM-T role.

To be clear, use of the Gray Eagle in a pure reconnaissance or precision attack[26] role is perfectly acceptable, and the division may require those roles depending on the tactical or operational requirements. But relegating the Gray Eagle to only one role may result in missed opportunities for integrated effects. For example, during one recent WFX, one observer noted:

> "…There was confusion between the operations and intelligence sections on how to manage the Gray Eagle. The effect was redundant UAS targeting on the same NAIs/targeted area of interest (TAI) and missed opportunities to confirm or deny enemy presence elsewhere in the area of operations. The collection manager became overwhelmed with collection management tasks… Consequently, the integration of the Gray Eagle into the ground scheme of maneuver and fires planning became a reactive process instead of proactive. Collaborate early with division G-3, G-3 air, division G-2 collection management and the brigade S-3 and S-2. Identify utilization of Gray Eagle: information collection or armed reconnaissance."[27]

The chosen role for the Gray Eagle will dictate how effective it is in support of the overall division mission. If allowed to transition between roles based on the needs of the mission in time and space, greater effects and reduction of risk can be achieved. Designation of those roles must be a collaborative effort of the HHQ staff. The G-2, G-3, fires, and others should work in concert to ensure all ISR and targeting needs are met. Less emphasis should be given to delegating who "owns" or "controls" the Gray Eagle. The better discussion is: What effects does the HHQ require and how can we best choose a role and priority for the Gray Eagle UAS to achieve that end state?[28] If that question is answered well and HHQ staff sections are integrated in choosing the role for Gray Eagle, the questions of "Own" and "Control" become moot. This again highlights the need for synchronization across all WFF at the division and corps staff.

Thus, the effectiveness of the Gray Eagle in support of division objectives is directly controlled by the role it is asked to perform. The HHQ that changed the role of the Gray Eagle to best meet the situation at hand experienced greater success. In nearly all cases, HHQ had little familiarity with the benefits of MUM-T employment and CABs struggled to sell the mutual benefits to their HHQ's staffs. Once the benefits of MUM-T are known, it is an added third tool in the Gray Eagle tool box to best achieve mission success.

Conclusion

In summary, the transition from COIN to DA has provided challenges, but true to the Army's legacy of flexibility and adaptability, staffs at all levels are learning quickly to adjust to the DA fight. As more leaders and staffs gain DA experience, the importance of synchronization and integration at the division and corps level will become obvious. This will improve the effectiveness of the overall team as a result. Recent observations during WFX exposed some areas for improvement, but almost universally, our division and corps leaders and staffs are quick to adapt and see the benefit of better synchronization across the division or corps. This is obvious in the observed improvements in how HHQ staffs own and integrate operations in the deep area, how they now integrate all players in the targeting process, and how they better employ advanced technological resources such as the Gray Eagle UAS. With continued focus, it is certain that our Army, and Army Aviation in particular, will continue to excel in future conflicts.

> *The CAB S-3 knocked on the CAB commanders tent flap. "Sir, just got off a video teleconference with the G-3, G-2, G-5, DIVARTY, ADA brigade, and others. Looks like we are far better off than we thought. The division has integrated the DIVARTY rocket attack to reduce enemy units that can reinforce the armor brigade we are targeting in our engagement area. They are also tasked to reduce known enemy formations along our flight routes for the attack in the deep area. They still achieve their desired reduction of the enemy reserves, but do so in a way that benefits our attack at the same time. The G-2 collection is refining our target array now and we should have a much*

better idea of where to position our attack to achieve max destructive effects. Lastly, division reallocated 50% of the Gray Eagle sorties back to us for use ahead of our infil routes. That should significantly reduce our risk during ingress and maximize our MUM-T capability, while still giving division a solid recon capability along its flank. Finally, division allocated four sorties of CAS in support of our attack and we anticipate being able to link our Gray Eagle feeds to their targeting pods; could be an ugly day for the enemy in our engagement area." The CAB Commander smiled and said, "Nice work! Amazing what we can accomplish when we work as a combined arms and joint team."

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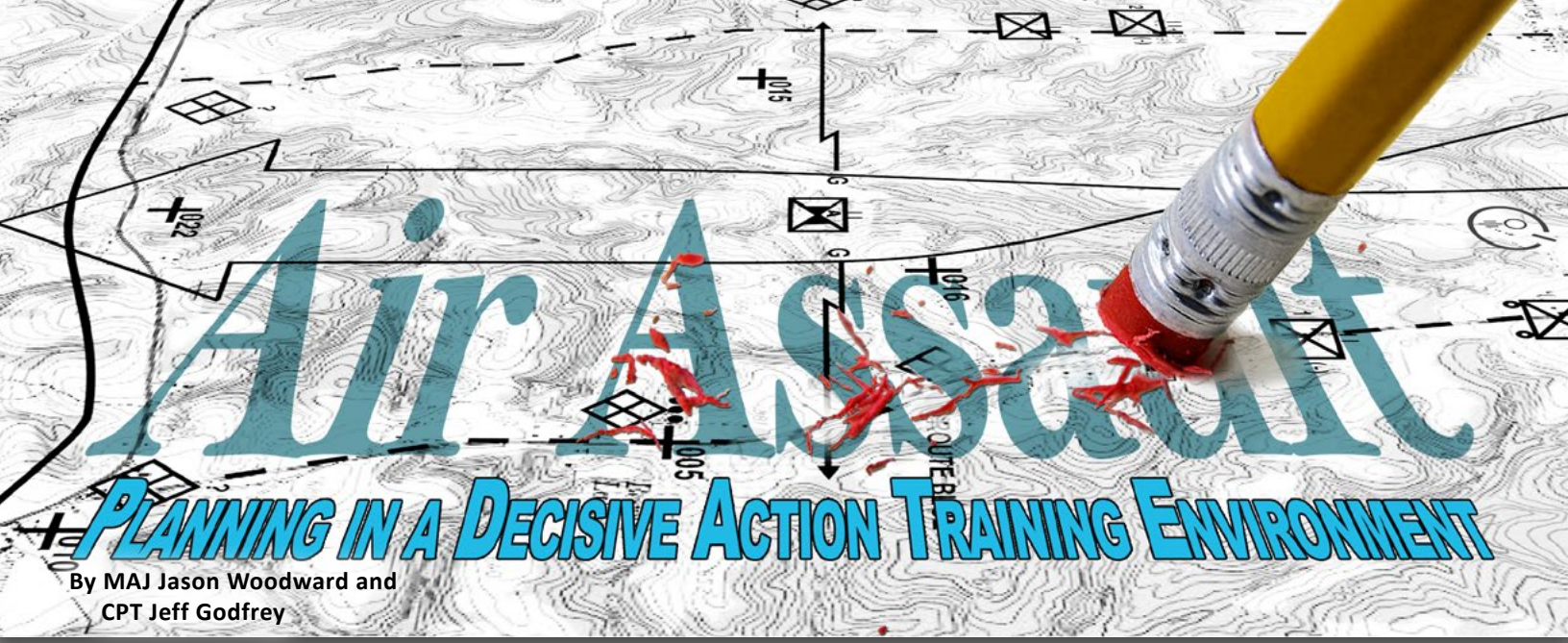
Acronym Reference

ADA - air defense artillery
ADRP - Army Doctrine Reference Publication
AGO - air-ground operations
BDA - battle damage assessment
CAB - combat aviation brigade
CAS - close air support
COIN - counter-insurgency
D3A - decide, detect, deliver, and assess
DA - decisive action
DIVARTY - division artillery
DATE - decisive action training environment
DOCC - deep operations coordination cell
FLOT - forward line of own troops
HHQ - higher headquarters
ISR - intelligence, surveillance, and reconnaissance
JAAT - joint air attack team
JP - joint publication
MCTP - Mission Command Training Program
MUM-T - manned-unmanned teaming
NAI - named areas of interest
OC/T - observer, coach and trainers
PIR - priority information requirements
TAI - targeted area of interest
UAS - unmanned aircraft system
WFF - war fighting functions
WFX - warfighter exercises



Air Assault

Planning in a Decisive Action Training Environment

By MAJ Jason Woodward and
CPT Jeff Godfrey

Your aviation task force has arrived at the intermediate staging base in preparation for a joint forcible entry (JFE). The brigade combat team (BCT) you are supporting has developed a ground tactical plan that will require an air assault utilizing your entire task force's combat power consisting of five CH-47s, eight UH-60s, four AH-64s, and two MQ-1Cs. H-hour is in 96 hrs. ***Is your task force ready?***

Small-scale air assaults in Iraq and Afghanistan have tempered how many aviation units approach the air assault planning process. While small-scale air assaults are generally easier to plan, proficiency in air assault planning has less to do with the size of the mission than the frequency with which aviation task forces execute air assaults, how often they establish habitual relationships, how well they understand the ground tactical plan, and how well they understand the terrain and enemy situation. Let the record show that Army Aviation has supported the Soldier on the ground during the Global War on Terror remarkably well. However, too often the aforementioned conditions rarely exist in our current modular construct, and while our combat experiences are invaluable, any air assault—large or small—requires intensive planning and synchronization across the task force. Unfortunately, recent combat experience may not fully prepare a unit to conduct a JFE in the decisive action environment. Army Aviation's proficiency conducting large-scale aircraft air assaults is not what it was before the wars in Iraq and Afghanistan; the skills have atrophied due to a lack of frequency in training and execution. Units cannot simply show up at the Joint Readiness Training Centers (JRTC) and expect to successfully execute a 20 ship assault in a decisive action training environment (DATE). They should conduct multiple training iterations at home station to reduce risk and validate unit tactics, techniques, and procedures (TTP). A large air assault is a decisive operation that requires extremely detailed mission planning, adjacent unit coordination, communication, synchronization across the warfighting functions, and rehearsals at the task force, company, platoon, squad, and Soldier level.

Using the reverse air assault planning process defined in Field Manual *(FM) 3-04, Army Aviation*[1], the intent of this article is to identify the observed trends at JRTC at the planning, briefing, and execution stages; discuss these trends from a doctrinal standpoint primarily using *FM 3-04* and *FM 3-99*, *Airborne and Air Assault Operations*; and provide recommendations based on doctrine, successful TTP, and observed best practices.

Before getting too far into this discussion, it is important to doctrinally define an air assault operation. *Field Manual 3-99* defines an air assault as, "An operation in which assault forces, using the mobility of rotary-wing assets and the total integration of available firepower, maneuver under the control of a ground or air maneuver commander, to engage enemy forces or to seize and hold key terrain." It further states, "An air assault is a vertical envelopment conducted to gain a positional advantage, envelop or turn enemy forces that may or may not be in a position to oppose the operation. Air assaults are not merely movements of Soldiers, weapons, and equipment by Army aviation units. An air assault is a precisely planned and vigorously executed combat operation. An air assault allows friendly forces to strike over extended distances and terrain barriers to attack the enemy when and where it is most vulnerable. Commanders and leaders must develop an insight into the principles governing their organization and employment to take advantage of the opportunities offered by an air assault."[2]

Ground Tactical Plan

Fundamental to air assault planning is an intimate knowledge of the ground tactical plan. This is the initial input that drives the next four steps in the air assault planning process. Units training at JRTC typically do not possess a clear understanding of the ground tactical plan until execution of a combined arms rehearsal. This regularly leads to hasty mission adjustments that are challenging to synchronize and resource immediately before execution - substantially increasing tactical and accidental risk.

Aviation task forces routinely fail to produce and issue a warning order during the military decisionmaking process further contributing to the lack of understanding of the ground tactical plan. The JRTC coaches units to conduct an initial planning conference (IPC) in accordance with *FM 3-99*,[3] concurrent with the air assault task force (AATF) course of action comparison during the military decisionmaking process. The purpose of the IPC is to ensure a

shared understanding across the AATF of the required outputs described in *FM 3-99* from the air mission coordination meeting (AMCM). These outputs include the finalized air movement plan, landing plan, air routes, pickup zones, and landing zones.[4] The primary input for the IPC is the ground tactical plan and should be conducted using an AMCM checklist so that ground and aviation formations depart the meeting with a clearly defined listing of due-outs in order to set the conditions for a doctrinally correct AMCM. While an attack aviation concept is not mentioned in *FM 3-99* as a required output of the AMCM, a successful TTP is early development of the attack aviation concept during the IPC. Planners must begin looking at engagement areas, manned-unmanned teaming (MUM-T) capabilities, aeromedical evacuation, suppression of enemy air defenses (SEAD) and synchronization and coordination for supporting fires as discussed in *FM 3-04*.[5] Failure to integrate early with the ground force and achieving the doctrinal outputs of the IPC and AMCM, places air assault planning on the wrong path and leads to compounding challenges and a lack of synchronization during execution of the air assault.

The amount of time required to plan and prepare an air assault is inversely proportional to the training level of the units involved and their familiarity with each other. *FM 3-04* states, "Planning times can range from as short as 30 minutes for habitual quick reaction force missions up to 96 hours for larger company, battalion or brigade air assaults in high threat areas."[6] For AATFs that have not previously conducted training together, a successful TTP is for the aviation task force to provide a copy of their AMCM checklist and deliver capabilities and air ground operations briefs to the supported unit as soon as they task organize. This interaction generally leads to achieving a shared understanding of expectations for both supporting and supported formations and reduces the amount of time needed to plan and prepare an air assault.

In the DATE at JRTC, aviation task forces routinely fail to provide the attack or scout aviation support required to successfully execute the supported unit's ground tactical plan. Experiences from Iraq and Afghanistan counterinsurgency operations have lead AATF commanders to have unrealistic expectations of aviation assets in the DATE. They expect attack and reconnaissance assets to continuously orbit the objective area instead of shaping the operating environment outside the ground force's organic weapon systems by conducting hasty and deliberate attacks, security, and reconnaissance operations against enemy forces in support of air assault operations. It is essential that the aviation task force commander ensures that the AATF commander understands early in the planning process that attack aviation provides operational space and reaction time to the ground force commander during an air assault as an aviation core competency detailed in *FM 3-04*.[7]

With the divestiture of the OH-58D and the implementation of the attack reconnaissance battalions and squadrons with organic Gray Eagle and Shadow unmanned aircraft systems (UAS) respectively, aviation task force commanders should become experts in employing UAS to fill the reconnaissance and security support for air assault operations. *FM 3-04* states, "Manned-unmanned teaming (MUM-T) is the integrated maneuver of Army Aviation rotary-wing and UAS to conduct movement to contact, attack, reconnaissance, and security tasks. MUM-T enables increased depth and breadth of Aviation reconnaissance and maneuver, longer persistence over the reconnaissance objective, increased ability to gain and maintain enemy contact, greater survivability, and more options to develop the situation with enhanced maneuver, fires and mission command."[8] In the past 12 rotations at JRTC, only four units have successfully employed MUM-T. When the aviation task force commander used MUM-T, he demonstrated asymmetric type advantages leading to increased survivability of aviation assets and destruction of enemy formations. Manned-unmanned teaming is tied directly to four of the Army Aviation core competencies in *FM 3-04*.[9] Not using the available UAS assets can be linked to fighting with one hand behind your back.

Landing Plan

The landing plan is arguably the most dangerous phase of the air assault. Like the ground tactical plan, rotational units training at the JRTC routinely display a skewed understanding of H-hour. *Field Manual 3-99* defines H-hour as the "specific time an operation begins."[10] Rotational units generally perceive that H-hour is simply that time when the first serial of the first lift is wheels down in the landing zone (LZ) rather than a highly coordinated time at which the assault landing occurs in order to synchronize all joint effects that enable a successful initial assault landing. The timing of H-hour is the critical synchronization tool for a successful air assault through the execution of a synchronized SEAD plan, ground assault convoy timing, or an armed UAS or attack helicopter operation to set conditions for a successful air assault. Leveraging the UH-60M and CH-47F capabilities, lift crews are routinely successful in timing H-hour landings to the second, but they have lost the concept of why the H-hour is so important. H-hour is often incorrectly calculated from the time it will take the ground unit to walk to the objective or occasionally even derived from the aircrew duty day. On multiple occasions

during the AMCM, rotational units have asked, "what H-hour works for you?", with no discussion of potential patterns of life, anticipated enemy operations, integration of fires, close air support availability, planned winds at that time, moon angle, or illumination percentages. Air assault task forces should establish the H-hour in accordance with the ground tactical plan to ensure synchronization of all other resources and enablers in order to set conditions for a successful air assault.

Landing zone selection at the individual crewmember level is also a lost art. Observed trends during mission planning include planners not utilizing all the mission planning tools at their disposal in order to plan the landing sequence. Planners are not scaling aircraft on FalconView to get an accurate depiction of LZ geometry and size in order to determine LZ suitability and a suitable landing formation or using the line of sight tool to conduct analysis of potential enemy observation while on the LZ. Additionally, many planners fail to plan for and select alternate LZs. When alternate LZs are selected, there is no understanding of how their utilization will affect the ground tactical plan, tempo of the mission, or future aviation support requirements such as attack integration, aerial resupply, or aeromedical evacuation. Finally, door gunners are rarely involved in the mission briefing and rehearsal process and do not understand or conceptualize their assigned sectors and weapons control status. The lack of inclusion of the door gunners results in the only Soldiers able to engage threats in the immediate vicinity of LZ being unable to visualize and synchronize their actions to protect the aircraft when they are the most vulnerable. The landing plan must be developed using tools that reflect the scaling of the aircraft relative to the LZ and the slope and obstacles therein. The landing plan must be exercised at a combined arms rehearsal by both the ground and aviation assets. Crew chiefs must be present at the aviation task force rehearsal in order to ensure understanding of the landing plan, rules of engagement, and loading priorities.

Lastly, air assault task forces routinely fail to properly set conditions before committing assault aircraft and ground forces. Both ground and aviation units often revert to a "default" Global War on Terror No-Go criteria without consideration of the potentially more significant surface to air threat they will face in future engagements. This results in inadequate contingency planning, particularly in the inability of attack aviation forces to safely neutralize the threat without accepting significant tactical risk to the force and the mission. The AATF must conduct a thorough threat analysis on, and in the vicinity of, the landing zone to determine the impact on the landing plan. Furthermore, the AATF must integrate BCT enablers such as UAS and indirect fires, and most importantly, allow more time to find and destroy enemy targets that can influence the landing plan. Rehearsing a "CHERRY (hot) LZ" as a contingency during both the AATF and the aviation task force rehearsals is an outstanding way to prepare air assault forces for successful insertion of the ground force postured to execute the ground tactical plan.

Air Movement Plan

Air movement planning by rotational aviation task forces at the JRTC is routinely focused on compliance with standing operating procedures (SOP) as opposed to tactical mission planning. Units are more focused on ensuring their routes do not have any turns greater than 60 degrees as opposed to selecting routes of flight that minimize their exposure to templated or known threat weapons systems. Additionally, aviators are challenged and generally not comfortable executing large formation flights at nap of the earth and contour flight profiles under low illumination conditions. Units who successfully executed their air movement plan during joint forcible entry operations typically integrated both the S-2 and aviation mission survivability officer into the air assault planning process. They were able to determine threat weapons engagement envelopes and from this information develop three-dimensional flight routes and altitudes that exploited the gaps in the threat engagement envelopes and, thereby, kept the aircraft masked from known threat systems.

The employment of SEAD is absolutely a lost art. In 11 rotations and over 35 air assault operations at the JRTC, rotational units have planned and successfully used lethal SEAD during one air assault. Non-lethal SEAD and electronic jamming is also underutilized. Air assault task forces rarely plan to suppress enemy air defenses because they lack threat fidelity and usually have not integrated fires into the maneuver and airspace planning. Home station training must incorporate SEAD in

order to build confidence and proficiency in both the fires and aviation unit's planning and timing. The Aviation Combined Arms Tactical Trainer is a great way to practice and rehearse integration of fires and develop a level of comfort before executing live SEAD. Suppression of enemy air defense, if properly planned, sequenced, and integrated is highly effective at mitigating tactical risk during the air movement phase of the air assault.

Loading and Staging Plan

The pick-up zone (PZ) is truly where successful air assault operations begin. Aside from communications issues, PZ operations have the most potential to derail an air assault. The loading and staging plan in the PZ often creates delays and confusion during air assaults at the JRTC. More often than not, the lack of leadership involvement in the PZ planning and failure to conduct PZ rehearsals are the contributing factors. Pickup zone control officers (PZCO) often do not have or understand the air movement table or the bump plan because they were not involved in the planning. The bump plan is often a check-the-box-item and left solely to the ground force to plan without aviation involvement. Pick-up zone rehearsals conducted with chalk leaders and the PZCO make a substantial difference in how smoothly the staging and loading plan operate and considerably lowers the tactical and accidental risk on the PZ. *Field Manual 3-99* covers PZ operations in depth and offers graphic depictions of a PZ and describes the actions at the PZ.[11] Flight leads or pilots in command rarely know the tactical significance of who or what is in back of their aircraft. They fail to understand the importance of the proper sequencing of ground unit leadership and specialized weapons or equipment into the LZ. The pilots in command, flight lead, and air mission commander's understanding of the intent and planned execution of the bump plan is fundamental to ensuring that the AATF meets the commanders intent for the operation.

Cold load training is conducted during rehearsals; however, the ground unit Soldiers frequently do not wear or carry all the equipment they plan on using during the actual air assault. Without the burden of this equipment during rehearsal, aircraft loading and unloading times are not representative of actual timelines resulting in ineffective training, inaccurate PZ timelines, and more significantly, false H-hour timelines. Units that conduct effective and safe PZ operations rely on a checklist codified by *FM 3-99* and company or task force SOP.

Recent combat experience does not prepare a unit to conduct large scale air assault operations. While combat experience is invaluable, it is not the panacea that will enable successful large air assault operations in future engagements. Successful air assaults require careful and detailed planning, training, repetition, and integration with all elements of the AATF that was not typical of counterinsurgency operations. The lessons learned and TTP written in blood on the battlefields of Iraq and Afghanistan, however, should not be forgotten as they will likely become useful as the operational and mission variables dictate. Additionally, the recently published *FM 3-04* and FM *3-99* provide doctrinal insights to help units train in order to build air assault proficiency and readiness and should be mandatory reading material in the air assault unit and BCT's library.

No Slack – All the Way!

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[5] FM 3-04, 3-27.
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[7] FM 3-04, 1-2.
[8] FM 3-04, 1-2.
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[10] FM 3-99, Glossary-7
[11] FM 3-99, 13-1.

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Acronym Reference

AATF - air assault task force
AMCM - air mission coordination meeting
BCT - brigade combat team
DATE - decisive action training environment
FM - field manual
IPC - initial planning conference
JFE - joint forcible entry
JRTC - joint readiness training center
LZ - landing zone
MUM-T - manned-unmanned teaming
PZ - pickup zone
PZCO - pickup zone control officer
SEAD - suppression of enemy air defense
TTP - tactics, techniques, and procedures
UAS - unmanned aircraft system

Cavalry Operations at the Joint Readiness Training Center

By LTC Bryan Chivers
and CPT Wm Todd Kuebler

Photo by: Scott Gibson, *JRTC Videographer*

"Altogether, Cavalry operations are exceedingly difficult, knowledge of the country is absolutely necessary, and ability to comprehend the situation at a glance, and an audacious spirit, are everything." - Maurice De Saxe, Marshal General of France[1]

Whether on foot, horse, OH-58D, or the AH-64D/E, cavalry troopers have adapted the tactics, techniques, and procedures (TTP) to meet the demands of the ever-evolving battlefield. The security and reconnaissance missions historically performed by the cavalry are essential to the lethality and survivability of the main battle force. Cavalry missions set the conditions for successful operations of the supported unit.[2] Counterinsurgency operations (COIN) have consumed the Army for the past 14 years, and Army Aviation has supported the trooper on the ground with overwhelming success. This singular focus has resulted in the atrophy of the skills and knowledge necessary for aviation squadron task force (ASTF) and aviation battalion task force (ABTF) staff and aviators to effectively plan, resource, and conduct reconnaissance and security missions in the decisive action training environment (DATE) at the Joint Readiness Training Center (JRTC).

Reconnaissance

"Reconnaissance is not a platform, it's a mission." –MG Mike Lundy

"Reconnaissance is a mission undertaken to obtain, by visual observation or other detection methods, information about the activities and resources of an enemy or adversary, or to secure data concerning the meteorological, hydrographic, or geographic characteristics of a particular area."[3] The focus of reconnaissance is on the enemy and terrain. Reconnaissance is a key component of the information collection process and aids in answering priority intelligence requirements (PIR), and may ultimately drive what course of action the commander selects. While some aviators may be familiar with *Field Manual (FM) 3-04.126, Attack Reconnaissance Helicopter Operations*, operations at JRTC indicate that they are not familiar with the application of the fundamentals of reconnaissance. As a result, reconnaissance operations routinely fail to provide the informational inputs necessary to drive the operations of the ground force commander (GFC). In order to meet the information requirements of the GFC, both planners and aviators must plan, resource, and execute the mission in accordance with the fundamentals of reconnaissance.

Orient on Reconnaissance Objectives

"Commanders direct reconnaissance operations by establishing reconnaissance objectives with a specific task, purpose, and focus."[4] Routinely, JRTC Observer, Coach/Trainers identify aviation companies that are overly reliant on the aviation task force (ATF) headquarters to conduct all the necessary premission planning. Aircrews habitually rely on the ATF operations and intelligence (O&I) briefings and ATF generated concept of operations (CONOPS) in order to conduct missions. This dependent style of planning often results in limited effects on the battlefield as the O&I brief and CONOPS lack the detail necessary to enable execution. The ASTF and ABTF staff should provide the ground force scheme of maneuver, conceptual aviation reconnaissance scheme and objectives, available assets, terrain description, and enemy situation through the publishing of a warning order, operations order, or a fragmentary order. Companies should then initiate troop leading procedures and establish company planning cells based upon receipt of an order. The common operational picture (COP) feeds troop leading procedures and planning cell operations. Companies should utilize the COP and ATF orders to develop detailed plans in order to orient on the reconnaissance objective. Company level planning increases the effectiveness of air ground operations by providing detailed planning to support the conceptual planning conducted by that ASTF and ABTF staff.

Do Not Keep Reconnaissance Assets in Reserve

In order to provide effective reconnaissance, the commander must employ all available assets. Routinely, rotational unit GFCs task the ATF to provide attack aviation

Task Force Viper AH-64D utilizing terrain to mask during live fire training at Peason Ridge during JRTC Rotation 15-10.

Photo by: Scott Gibson, *JRTC Videographer*

spread as evenly as possible across a 24-hour operations window to provide a quick reaction force (QRF); essentially using attack aviation as a brigade combat team reserve, without providing the doctrinal requirements of priority of planning and priority of commitment. The QRF is a familiar role for attack aviation in COIN operations; however, in a decisive action environment, the QRF mission is restrictive and reactive, prevents the GFC's ability to capitalize on the speed and lethality of attack aviation to conduct reconnaissance, and violates a fundamental of reconnaissance. The GFC should provide collection priorities through the information collection (IC) plan and allow the ASTF and ABTF to apply maximum combat power to execute the IC plan in support of reconnaissance.

Task Force Viper AH-64D providing aerial security to the task force tactical assembly area during defensive operations at JRTC.
Photo by: Scott Gibson, *JRTC Videographer*

Ensure Continuous Reconnaissance

The ATF should conduct reconnaissance before, during, and after operations and take advantage of the unique capabilities of all of its assets, including unmanned aircraft systems (UAS). The mobility, lethality, speed, endurance, and sensors of the AH-64 make it a prime platform for the reconnaissance mission.[5] Unmanned aircraft systems provide a persistent reconnaissance capability and when paired with the AH-64D/E to conduct manned-unmanned teaming (MUM-T), the unique capabilities of each becomes synergistic. The capabilities of the AH-64D/E and UAS to share and exchange information and transmit that information to the ATF is exercised extensively during JRTC rotations. Despite the ability to transmit targeting and other critical real time mission information, to include video feeds, to the GFC, no GFC has elected to use this information to support their operations during JRTC rotations.

The ability of the AH-64D/E and UAS to provide critical mission information enables operators, staffs, and commanders to expedite clearance of fires, observe areas of interest real time, increase situational awareness, and capitalize on the inherent strengths of these platforms to provide near continuous reconnaissance. The ABTF and ASTFs must continue to train manned and unmanned systems operators to build reconnaissance skills. In order to be relevant, they must also press the education of the GFC on the capability of the aviation reconnaissance assets available to him.

Retain Freedom of Maneuver

Reconnaissance elements should avoid becoming decisively engaged unless contact is absolutely necessary to gain information. "Making contact with the smallest possible element, using redundant and different reconnaissance capabilities, conducting effective counter-reconnaissance, maximizing standoff, and employing suppressive direct and indirect fires all contribute to reducing tactical risk…"[6] Leaders have to ensure their aviators are fully trained and confident in all flight modes and movement techniques, especially under night vision devices in red illumination, based upon the mission variables in order to maintain freedom of maneuver in the DATE. Selection and execution of movement techniques, based upon the enemy disposition, terrain, and environmental conditions is key to retaining freedom to maneuver and not making incidental and repeated contact with the enemy. The forward looking infrared (FLIR) system offers significant advantages in reconnaissance operations; however, terrain, such as dense forest (like those forested areas at JRTC) or rugged terrain, degrades the detection range and ability of aircrews to reconnoiter. It is under these situations that a perspective of the terrain from the UAS becomes invaluable to the manned reconnaissance aircraft.

Task Force Viper AH-64Ds occupy the tactical assembly area on Geronimo Drop Zone at JRTC.
Photo by: Scott Gibson, *JRTC Videographer*

Gain and Maintain Enemy Contact

"Based on the commander's intent and contact criteria, maintaining contact with the enemy force provides real time information…"[7] By employing MUM-T, aviation can use maximum standoff in order to gain and maintain contact, answer PIRs, conduct reconnaissance, and engage the enemy when required, while remaining outside the enemy sensors or weapon systems range to maximize survivability.

However, there are occasions that reporting and continuing the reconnaissance mission is essential. Under such circumstances, the reconnaissance element must have guidance from the commander when bypassing the threat is necessary. Neither GFCs nor ATF commanders have established bypass criteria for reconnaissance assets in the last two years at the JRTC. Too often, when attack helicopters or armed UAS make contact with the enemy, they escalate tactical actions in order to defeat or destroy the target when bypassing and reporting would be more appropriate. Commanders and staff must develop bypass criteria in order to equip air mission commanders with the tools necessary to support ongoing reconnaissance operations.

Develop the Situation Rapidly

"Aviation reconnaissance forces must rapidly report when contact is made and conduct actions on contact to determine the composition, disposition, strength, and activity of the enemy."[8] Aviators must possess the ability to quickly assess the enemy forces they encounter and determine their level of commitment to the fight. By developing the situation rapidly, aviation forces can transition between reconnaissance and a hasty attack based upon bypass criteria. Aviators operating in the DATE at JRTC often depart on a mission without the minimum essential information, particularly an understanding of both the enemy and friendly dispositions and composition, and spend considerable time developing situational awareness in flight. Ensuring an understanding of the ground force scheme of maneuver and CONOPS prior to takeoff will decrease the time it takes an aircrew to develop the situation while conducting reconnaissance and ultimately increase effectiveness.

Report all Information Rapidly and Accurately

Quick and accurate positive and negative reporting of information supports a commander's decision making. Aviation task forces struggle to link PIR to a location, time, and associated indicators that are observable from an aerial platform. Aircrews also struggle to pass timely reports to either the GFC or the ATF staff. Aircrews routinely wait until the post flight debrief with the S-2 to report what they saw, often delivering critical reconnaissance information well after the latest time it is of value. The ATF staff must develop executable reporting requirements and timelines that account for the complexity of conducting aviation operations and the necessity to report information in order to support the commander's decision making.

Fundamentals of Security

Reconnaissance and security operations are very similar; reconnaissance is focused on the enemy or terrain while security is focused on the force being protected. "Security operations are those operations undertaken by the commander to provide early and accurate warning of enemy operations to provide the force being protected with the time and maneuver space to react to the enemy, and to develop the situation to allow the commander to effectively employ the protected force."[9]

Provide Early and Accurate Warning

Army Aviation can uniquely provide depth to the GFC's security operations based upon the capabilities of the manned and unmanned platforms sensors, beyond line of sight communications, and maneuver speed. In order to identify enemy forces in depth, the most effective ATFs at the JRTC employ a combination of manned and unmanned systems while conducting security in the DATE. The reduced audio and visual signature of UAS allows observation and detection of enemy forces, potentially without detection from the enemy. Unfortunately, ATFs are not conducting MUM-T during home station training, and as a result, they have not codified MUM-T TTP in standing operating procedures or battle books

▲ - Task Force Viper refueling an AH-64D during the Joint Forcible Entry during at JRTC Rotation 15-10.
- Here, rearming and refueling an attack weapons team during live fire training at Peason Ridge. ▶

Photos by: Scott Gibson, *JRTC Videographer*

that they can reference when planning security missions with supported units.

The ATFs are not performing precombat checks during reception, staging, onward movement, and integration to ensure manned and unmanned systems are compatible. Therefore, the ATFs generally conduct MUM-T through FM radio communication instead of incorporating more reliable digital MUM-T communication capabilities. Home station training on MUM-T operations is critical to establishing proficiency. Face-to-face discussions, ground rehearsals, and operations in a low threat environment, between attack aviators and UAS operators prior to deployment are critical to building proficiency, refining, and standardizing MUM-T TTP.

Provide Reaction Time and Maneuver Space

"Based on the protected force commander's desired reaction time, Army Aviation operates at extended distances from the main body thus offering additional time and space for the protected force commander to make an informed decision to employ forces."[10] Screen, guard, and cover operations allow a deliberate security operation and provide the protected force with reaction time. When enabled with MUM-T, screen operations are effective at protecting the force, by providing early warning and disrupting the enemy. At JRTC, only one rotational unit has conducted sustained screening operations in the past three years—the results were devastatingly violent and highly effective. While other units attempted screen operations, constant retasking of aircraft from the screen line, failure to integrate with the ground force, and the demand for 24-hour attack reserve negated its effectiveness. Leaders and planners must understand the importance of screen, guard, and cover operations. To successfully provide reaction time and maneuver space to the supported unit, leaders must delineate specific retasking authority from security operations and avoid pulling critical security assets away for hasty mission support.

Orient on the Protected Force, Area, or Facility

Security force movement and orientation must be nested with the protected force. Therefore, planners and aviators must have an understanding of the protected force's scheme of maneuver. This is minimum essential information that enables aviation security elements to orient on the protected force. It is relatively straightforward for aviators to orient on the supported force during defensive operations. However, rotational units operating at the JRTC routinely focus on the friendly position and do not extend their security scans outside of the immediate vicinity of the ground force. It is much more difficult to orient on the protected force while maneuvering. Aviators must use common graphic control measures and execution checklists to assist with navigation and positioning of security teams to effectively orient on and protect the supported unit. Additionally, aviators require awareness of all available support assets such as indirect fires, air defense, UAS, and sustainment capabilities in order to effectively execute security operations. The ATF must develop systems to disseminate maneuver graphics and force locations in order to allow aircrews and operators to maintain their orientation relative to the protected force.

Perform Continuous Reconnaissance

Ground and air elements perform continuous reconnaissance to ensure that enemy forces cannot make surprise contact with the protected force. The employment and positioning of forward arming and refueling point (FARP) sites and mission command nodes as far forward as possible allows Army Aviation to efficiently maintain tempo using

available resources supporting continuous reconnaissance. Many rotational units are undermanned and underequipped to provide continuous reconnaissance due to a lack of trained aircrews, UAS operators, and FARP personnel and equipment. Integration with UAS and the ground force is critical to ensure coverage is coordinated during lapses in rotary wing support. Rotational aviation task forces frequently lack an understanding of the ground force's disposition and are unable to synchronize reconnaissance efforts. While the JRTC training area is relatively small, during the joint forcible entry, units spend considerable flight time transitioning between the intermediate staging base and the area of operations in order to refuel. Establishment of a FARP immediately upon the expansion of the area of operations supports maximum utilization of available assets to enable continuous operations.

Maintain Enemy Contact

"Unmanned Aerial Systems provide persistent observation and allow manned aviation systems to reposition to positions of advantage…"[11] Unmanned Aircraft Systems and attack aviation are high-demand assets. Unmanned Aircraft Systems and attack aviation are rarely available in significant quantity to enable simultaneous reconnaissance and security operations in the deep, close, and security areas. As a result, aircraft and systems are continuously transiting the maneuver area attempting to regain contact with the enemy. The terrain and vegetation at the JRTC, as in many other potential trouble spots throughout the world, favor the cover and concealment of ground maneuver elements. Therefore, the enemy air defense assets have an advantage to quickly acquire and engage aircraft as they spend a significant amount of time exposed while attempting to regain enemy contact. Prioritization of the use of assets through the development of decision support tools and clear delineation of the retasking authority significantly enhances Army Aviation's ability to maintain enemy contact.

Reconnaissance and security operations are squarely in the purview of the modern cavalry trooper. The horse and the OH-58D have been replaced by the Shadow, Gray Eagle, and Apache on the modern battlefield. Regardless of the system, the essential nature of these missions remain. Aviators, UAS operators, and ABTF and ASTF staffs must understand the fundamentals of both security and reconnaissance missions before they can efficiently and effectively support the GFC. The JRTC provides a unique environment where ABTF and ASTFs can demonstrate home station training and proficiency against a determined, adaptive, and thinking world-class opposition force. The Aviation Division at JRTC looks forward to helping ATFs see themselves and capture best practices to share across the Aviation Enterprise. Understanding the fundamentals of reconnaissance and security operations will help aviators and staffs regain a cavalry mentality and enable Army Aviation to remain Out Front!

No Slack!

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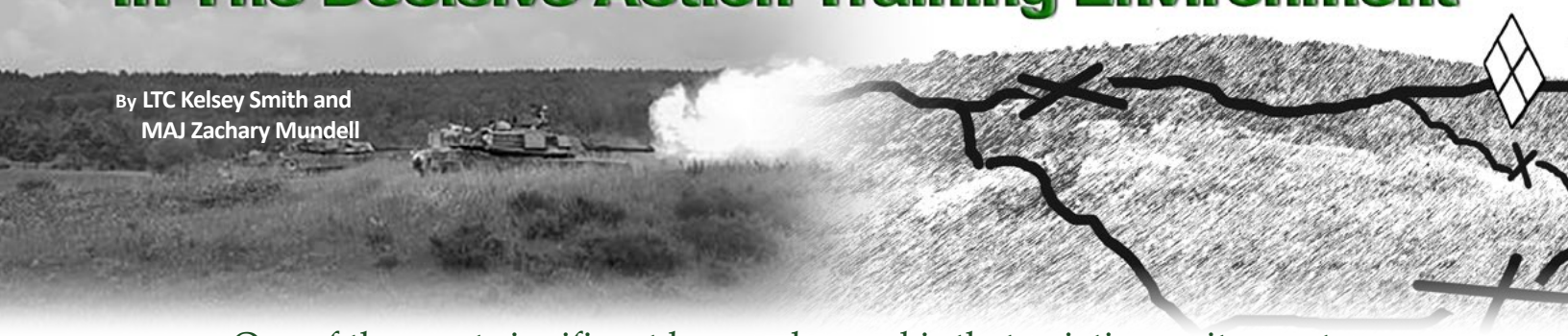
Acronym Reference

ABTF - aviation battalion task force	**GFC** - ground force commander
ASTF - aviation squadron task force	**IC** - information collection
ATF - aviation task force	**JRTC** - joint readiness training center
COIN - counterinsurgency operations	**MUM-T** - manned-unmanned teaming
CONOPS - concept of operations	**O&I** - operations and intelligence
COP - common operational picture	**PIR** - priority intelligence requirements
DATE - decisive action training environment	**QRF** - quick reaction force
FARP - forward arming and refueling point	**TTP** - tactics, techniques, and procedures
FLIR - forward looking infrared	**UAS** - unmanned aircraft system
FM - field manual	

Attack Ops & MUM-T

In The Decisive Action Training Environment



By LTC Kelsey Smith and
MAJ Zachary Mundell

One of the most significant lessons learned is that aviation units must over-communicate (not oversell) their capabilities and seek every opportunity to integrate into the ground scheme of maneuver.

Army Aviation attack helicopters represent one of the greatest forms of lethality on the modern battlefield. One platoon of AH-64s employed at the right time and place can significantly change the outcome of a battle. Effective incorporation of manned-unmanned teaming (MUM-T) capabilities with attack aviation increases operational range, decreases risk to attack aviation from enemy air defense artillery (ADA) threats, and provides AH-64 crews with enhanced situational understanding without compromising their positions. However, current trends at the National Training Center (NTC) are that attack aviation assets are often not effectively employed meaning that fires from attack aircraft are not massed at the decisive point. Attack aviation is instead used as an emergency response force, as was custom in 15 years of counterinsurgency operations (COIN), and MUM-T is not effectively employed during maneuver due to competing demands for unmanned aircraft systems (UAS), disagreement at echelon about how UAS should be employed, and limited training opportunities at home station.

Current Trends

One recurrent theme from decisive action training environment (DATE) rotations at the NTC is that ground commanders often do not fully understand aviation capabilities, limitations, or doctrine as detailed in *FM 3-04, Army Aviation*. Most observed ground commanders rely on what they know from their experiences during the past 15 years of COIN operations in Afghanistan and Iraq. Many ground commanders still expect aviation to respond to troops in contact as an emergency response force, rather than seeing the need to mass attack aviation assets at the decisive point of the operation or employ them early enough to shape the battlefield for follow-on operations.

Another trend is that aviators themselves are more apt to rely on past experience from the Global War on Terror rather than adjusting their tactics for the threat in the DATE. Specifically, attack aviators often lack tactical patience and a full understanding of the ground scheme of maneuver. As a result, aviation units fail to maneuver tactically in coordination with ground units and then expose themselves to a threat they do not expect or fully appreciate.

The integration of UAS platforms with attack aviation using MUM-T is a relatively new concept to the Army and to ground commanders in particular. Many ground commanders are still unfamiliar with MUM-T—particularly its application following the Aviation Restructuring Initiative (ARI). Limited access to MUM-T training at home station is also hindering the force from fully realizing the potential benefits. Finally, most UAS operators are not yet trained as aero scouts and do not understand how to best employ their platforms to generate situational understanding for their attack teammates and task force staff.

Observed Training Shortfalls

Current rotational trends at the NTC indicate that attack organizations are still conducting training based more on what they know (tactics, techniques, and procedures (TTP) from the recent past of COIN operations rather than current doctrine (i.e., primarily training as teams of two instead of full platoons). Due to poor integration and limited practice working with ground units, many aviation units do not fully understand the ground tactical plan and their role in the overall scheme of maneuver. As a result, attack aviators often are not able to talk to their ground counterparts and do not effectively maneuver in concert with the ground force. Many attack aviation units do not fully understand or train for the threat in the DATE or understand how the differences between the threat in DATE and recent deployment experiences necessitate different tactics.

Most aviation units training at the NTC do not conduct deliberate military decisionmaking process (MDMP) preparation, have not conducted enough iterations of MDMP to be practiced at its application, and do not develop decision

support matrices with triggers for employing attack aviation at the right place and time. Effectively using the MDMP requires practice. The fast pace of DATE rotations at combat training centers (CTC) does not allow enough time or opportunities for staffs to become proficient if they do not arrive that way. Late task organization also leads to considerable friction for aviation units. Specifically, most aviation units do not train as multi-functional task forces early in their training cycle, resulting in lost opportunities and limited integration prior to arriving at the CTC. Similar to the challenges with MDMP when unpracticed, units struggle to incorporate non-organic elements of the aviation task force when the first time they do so is at the CTC.

Aviation units often do not train sustainment operations that they will encounter in a field environment (logistical resupply, maintenance, etc.) at home station. As a result, they struggle with sustaining themselves in the DATE. Most aviation units are also unprepared for the communications challenges of the DATE—specifically communicating over long distances and beyond line of sight. Many units are not prepared to conduct mission command on the move and rarely apply effective planning of mission command nodes to support the breadth of their operational area. Units also struggle to build an effective common operational picture that allows the commander to correctly assess the situation and provide timely recommendations to the supported ground force commander.

Manned-unmanned training at home station is a challenge for many units due to airspace constraints, ARI timelines, and resource limitations. The de-synchronization of Gray Eagle platoon deployments from their parent attack units has resulted in units not training or deploying together. The integration of Shadow platoons into the attack reconnaissance squadrons also requires adjustment to unit standing operating procedures (SOP) and training plans to ensure battalion staff understand Shadow capabilities and limitations, and that Shadow operators jointly train with their attack aviation counterparts.

Lessons Learned

One of the most significant lessons learned is that aviation units must over-communicate (not oversell) their capabilities and seek every opportunity to integrate into the ground scheme of maneuver. Aviation units should use the brigade aviation element and carefully chosen liaison officers (LNO) imbedded at the brigade and with adjacent ground battalions to ensure that aviation is incorporated into the ground unit's tactical plan. The senior aviation leader is primarily responsible for establishing a relationship with the supported unit (at the CTCs, this is the ground brigade combat team). Aviation leaders have to train their ground counterparts on Army Aviation doctrine (*FM 3-04*) and the benefits of massing fires at the decisive point. They must be an active and energetic proponent for employing and selling Army Aviation.

Success breeds opportunity. Units that successfully demonstrate the lethality and agility of attack aviation capabilities earn a seat at the table and future opportunities to demonstrate those capabilities. Success at the CTCs depends on robust, effective training plans at home station that train full aviation task forces in combined arms maneuver, mission command on the move, and sustainment in a field environment. Staff training on MDMP, battle drills, and field operations are no less important. Exercising MUM-T with Shadow and Gray Eagle UAS allows attack aviation to extend reconnaissance, better mass fires, and maximize stand-off range. Units that practice MUM-T at home station have the greatest success of employing this capability in the DATE. Best practices include integrating UAS operators into the task force and sharing LNOs to ensure that UAS operators fully understand the tactical plan and all essential information (transmission frequencies, mission graphics, etc.) is shared.

Recommendations for Leaders

Battalion commanders training their units for operations in the DATE should practice mission command and sustainment (including maintenance) in a field environment. Train your battalion how to manage transitions during tactical movement between tactical assembly areas. Conduct multiple iterations of deliberate MDMP, beginning with the full process and then transitioning to an abbreviated version. This will educate the staff on how to conduct the process and how to effectively abbreviate it when time is limited. Conduct platoon and company level maneuver training based on current doctrine found in *FM 3-04*. Require your commanders and platoon leaders to lead mission planning and conduct full rehearsals prior to execution, and then to effectively employ their units as air mission commanders. Focus on planning cells at the company level that are able to take operations orders and develop the tactical plan. Conversely, discourage training that only supports COIN TTP from experiences gained in Operation Iraqi Freedom/ Operation Enduring Freedom. This does not mean "flushing" this knowledge as any future conflict will likely require the continued use of these skills - just do not make it the entire focus of your training event.

Whenever possible, encourage and facilitate maneuver training with ground units at home station. When able to conduct training with UAS, place the ground control station in the main command post or with the attack command post in order to force integration of UAS operations with the task force's scheme of maneuver. This will lead to better cross-talk between UAS operators and the task force leadership and provide greater opportunities for exercising MUM-T. Finally, build relationships and trust with supported ground forces. As the aviation battalion commander, you are the senior aviation coordinator (AVCOORD). You must fully explain and sell your capabilities to your counterparts. Earn a place at the table by being proactive (not obnoxious) and finding ways to facilitate the ground commander's mission.

Brigade commanders planning training at home station should consider early task organization to enable units to train together collectively prior to deploying for a CTC rotation. In addition, the brigade should establish a multi-functional task force risk management SOP so that the individual task force commanders are not generating them as training commences at the CTC. This will lead to standardization at home station, establish a solid foundation of required skill sets among brigade assets, and eliminate confusion that units often experience when operating together for the first time. Brigades should Integrate UAS operations and MUM-T into the overall brigade standardization program and SOPs so that all aviation battalion headquarters understand how to employ and integrate UAS into task force operations.

Cross-leveling personnel and equipment is often a contentious issue, and if not conducted effectively results in units insufficiently manned and equipped for the requirements of fighting in the DATE. Brigade commanders must oversee and manage the unit integration process so that battalion task forces are adequately manned and equipped to perform as multi-functional aviation task forces. Brigade commanders must help ensure that systems and processes are in place to support 24-hour operations for units training at the CTCs, including after-hours and weekend parts ordering and funding approval.

Conclusion

Successfully operating in the DATE requires a paradigm shift from the past 15 years of COIN operations in how we train and resource units at home station. To successfully fight and win in the DATE over an extended period, Army Aviation must become more proficient with operating in austere environments, conducting mission command on the move, and conducting deliberate MDMP that involves the entire staff. Commanders should focus their home station training on defeating the hybrid threat, including advanced ADA platforms, and should emphasize platoon and company level operations. Commanders who find creative ways to integrate UAS and attack aviation utilizing MUM-T at home station will have the most success employing those assets together at the CTCs. Finally, the senior aviation commander in a CTC rotation is the AVCOORD and must make every effort to build relationships with their ground counterparts and to integrate aviation into the ground scheme of maneuver. Attack aviation units whose commanders do so have the greatest success being utilized in a decisive manner during their CTC rotation.

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Acronym Reference

ADA - air defense artillery
ARI - Aviation Restructuring Initiative
AVCOORD - aviation coordinator
COIN - counterinsurgency operations
CTC - combat training centers
DATE - decisive action training environment
LNO - liaison officer
MDMP - military decisionmaking process
MUM-T - manned-unmanned teaming
NTC - National Training Center
SOP - standing operating procedures
TTP - tactics, techniques, and procedures
UAS - unmanned aircraft systems

Integrating Multinational Aviation.

A Challenge in Interoperability.

By MAJ Ryan A. Cryer and
CPT Seth T. Power

Within the aviation community, we strive for standardization. The Type "A" personality that permeates the culture of aviation, coupled with the precise and demanding nature of the mission requires clearly established rules, regulations, and planning factors that outline our capabilities and limitations. Countless arguments have been settled, and bets won and lost, thanks to the fact that the Department of Defense (DoD), the Department of the Army, and the Federal Aviation Administration clearly lay these parameters out in writing. We create checklists, we memorize emergency procedures and limitations, and we calculate performance planning cards to the exact pound of fuel. Every combat aviation brigade (CAB) down to the battalion and squadron level has standing operating procedures in place that when pilots and planners have questions, they know exactly where the answer lies. Today, after 14 years of combat aviation operations in support of ground forces and thousands of permanent change of station moves later, our aviators have a generally shared understanding of our operational framework and capabilities across the force. Regardless of the unit patch you wear, we know what to expect from our sister units and, as a result, interoperability between CABs is relatively seamless. We may use different brevity words or conduct crew briefs slightly different, but at the end of the day, we each fall subject to the same Army Regulation 95-1. When it comes to integrating with our European aviation partners, however, our unfamiliarity with aircraft that many of us have only seen on recognition of combat vehicles exams leaves us in entirely unfamiliar territory, both culturally and operationally.

The Joint Multinational Readiness Center (JMRC) and the Falcon Observer Controller Team, unlike its sister combat training centers (CTC), is in the unique position to work in this environment as U.S. Army Aviation units integrate and work with aviation assets from numerous countries throughout Europe. As the DoD refines its focus to the European Theater, the integration with North Atlantic Treaty Organization (NATO) partners in wide scale combat exercises throughout the

region brings to the forefront many of the challenges we see units facing as we meld forces into a coalition partnership. Like each CTC, JMRC often sees many of the same challenges posed to each unit and the unique ways in which they overcome them. While each reached varying degrees of success, there are inevitably certain factors to keep in mind to make the process of integrating our international allies more seamless.

Early task force (TF) integration that facilitates mutually understood capabilities and limitations is of significant importance. This is especially true when incorporating a foreign entity largely unfamiliar with the way in which we operate. Early coordination, utilization of liaison officers, and capabilities and limitations briefings to key staff prior to or early in the rotation are proven ways to effectively ensure both a shared understanding while maximizing the use of assets. *Field Manual (FM) 3-04, Army Aviation* provides invaluable guidance for air ground operations, a concept with clear applications to integrating coalition partners into the TF, by stating that more detailed planning and rehearsals are required when the team is newly formed, but agility, speed of action and mission success are significantly enhanced when habitual relationships are established, liaison is imbedded throughout the operations process, procedures are standardized and practiced, a common operational picture is maintained, and mutual trust is built through effective relationships and shared understanding.[1]

Effective units ensure that every element is incorporated in the activities and products representing the readiness of the TF. This includes mission planning, rehearsals, briefings, and accurate representation of all TF airframes in daily maintenance status reports. Inclusion of the coalition partner in every facet of TF operations facilitates cohesion and open dialogue and greatly enhances the capabilities of the coalition teamed TF.

Army Aviation places great emphasis on and has become highly proficient conducting night operations using night vision devices (NVD). Some of our partner forces, however, do not share the same resources and proficiency in this task and

it is not uncommon for aircrews to arrive at Hohenfels without NVD, thus restricting their tactical flight operations to daytime only. Every bit as significant, perhaps more so, are communication issues within a coalition teamed TF. While we have become accustomed to avionics packages with upwards of five configurable radios, developing a communication plan proves to be a significant challenge given the fact that many coalition partner air frames have one ultra high frequency radio, one very high frequency radio, and maybe one frequency modulation radio. Considering the complexity of communication plans on the battlefield, coupled with the additional frequencies aviators are required to monitor, we see air crews quickly running out of radios. What ultimately results is each aircraft monitoring different radios and relaying information to their wing man, a process that, as you can imagine, becomes taxing in complex scenarios and results in confusion and a lack of situational awareness.

As much of our equipment and capabilities have become second nature and taken for granted, it is critically important not to assume any detail of mission support when teamed with a coalition partner. Task force leaders and planners must identify capabilities and limitations and determine how they might affect flight operations and ultimately the plans to support the ground force commander.
Many of our coalition partners' rotary wing aircraft originate from their Air Force component. This apparently simplistic statement has significant cultural and operational implications. While the physical act of flying a helicopter is universally understood, most everything else associated with mission planning and providing support to the ground commander with which they are familiar is vastly different. The proximity in which Army Aviation works in support of the ground force ultimately requires that we understand the ground commander's maneuver plan, battlefield tactical tasks, and coordination measures in order to operate safely and effectively. The relationship and familiarity with their supported ground forces and nature of the missions flown by some NATO partners in support of their military forces is not the same as the interdependent relationship between Army Aviation and ground units.

Ensuring that our Allies have a clear understanding of the battlefield picture and the limits imposed upon them as a result of coordinated fires, enemy and friendly locations, and surface to air threat capabilities helps build confidence and facilitates successful mission execution. In addition, as we build TFs with multinational partners who are integrated from both their Army and Air Force components, we should build aviation liaison teams to facilitate air-ground operations and planning using the framework for liaison duties and responsibilities provided by *FM 3-04* in the conceptual stage of a mission through the duration of a specific operation.[2]

Equally significant to TF operations is the cultural integration between TF personnel as they cohabit the airfield, hangars, and briefing tents. As coalition partners arrive with different uniforms, unique grooming standards, and varying proficiency in English, most American Soldiers are hesitant to strike up a conversation as foreign rank insignia leaves Soldiers fumbling for the proper title when addressing someone. Within the U.S. Army, we understand certain ranks correlate to certain levels of responsibility or command and are accustomed to addressing those ranks for varying reasons. Battle captains have no qualms asking company grade commanders for flight crew information or calling senior non-commissioned officers in delta company for an aircraft status. They hesitate; however, when they realize the detachment commander of two aircraft from a participating nation is a lieutenant colonel and his senior maintenance officer is a major. Some level of cultural education on the coalition partner's rank structure and military customs prior to forming the TF would go far in strengthening understanding and relationships amongst TF personnel.

Task force commanders should also consider how they align their foreign counterparts within the organization. For example, does the size and capability that the partner unit brings to the fight warrant treating them as a separate company, or should they be aligned under an existing company to increase the overall strength? A prime example of this we have seen is in the medical evacuation (MEDEVAC) community, where aligning two Bulgarian aircraft under an Army Aviation MEDEVAC company increased their depth of

personnel and their coverage windows. Additionally, the pairing allowed for cross-training between American and Bulgarian medics that may have not otherwise occurred.

Lastly, the way in which we communicate orders with our Allies should be a consideration from the operations and staff perspective. During rotations, fully developed, written warning orders, operations orders, and scripted air mission briefs are generally considered the standard. In time constrained planning environments, however, it's easy to cut corners and provide verbal orders to commanders and aircrews or give in-flight mission changes with the expectation that they will be able to execute without issue. When dealing with coalition aircrews, however, the possibility that critical information is lost in translation becomes significantly higher when issuing verbal orders. When communicating with one another, we often speak quickly, use acronyms, brevity words, or jargon that, while we fully understand what the other person meant, for individuals whose primary language is not English, the intended message may not be comprehended. For this reason, staffs should provide written orders, when possible, to multinational crews, even if it is a simple mission statement containing clearly defined information such as task and purpose, time lines, frequencies, grids, and call signs. Most importantly, be patient. I promise that despite having to come up with multiple ways to convey a message, at the end of the day, their English is better than our Czech, Bulgarian, German or Italian.

As Army Aviation increases its presence throughout the European Theater, the inevitability of partnering with multinational aviation assets in complex training missions is reality. As aviation TFs begin rotations in support of U.S. Army Europe, the incorporation of multinational partners in their planning process will become increasingly important to ensure success. Furthermore, from a real-world perspective, while the majority of U.S. forces are out of the Iraq and Afghanistan theaters of operation, watching the news for more than a few minutes illustrates the very likely possibility that we will be called upon again to combat terrorism somewhere in the world. With numerous regional threats throughout the globe, the importance of understanding our allies, their capabilities, and developing relationships with them will prove crucial should we find ourselves engaged in another conflict in which we have the opportunity to work side-by-side with our aviation partners.

1. U.S. Department of the Army, Army Aviation, *FM 3-04* (Washington D.C.: U.S. Department of the Army, 2015), 1-1.
2. *FM 3-04*, 2-20

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Acronym Reference

CAB - combat aviation brigade
CTC - combat training center
DoD - Department of Defense
FM - field manual
JMRC - Joint Multinational Readiness Center
MEDEVAC - medical evacuation
NATO - North Atlantic Treaty Organization
NVD - night vision devices
TF - task force

Distributed Mission Command & Delegation of Prudent Risk Acceptance in Aviation Operations

By MAJ Beau Rollie

Distributed mission command in aviation operations is fast becoming the rule in most operating environments. Increasing worldwide threat from terrorists and rogue nations along with the military drawdown forces ever greater dispersion of Army Aviation across potential battlefields, which thereby increases the requirement to exercise distributed mission command. It is under these increasingly dispersed conditions that ever lower ranks must be capable of making prudent risk decisions. Indeed, it is the intricate relationship between risk approval authority and the exercise of disciplined initiative where aviation units are testing the bounds of mission command. If not properly implemented, the aviation risk management system can hamper junior leader initiative by retaining most significant risk analysis and approval duties at battalion level or higher. To overcome this problem, the Army Aviation branch should develop professional development and counseling plans aimed at certifying additional contingency low, medium, and high risk approval authorities within battalion and brigade organizational structures to optimize aviation formations for distributed mission command.

Army Doctrine Reference Publication 6-0, Mission Command, defines mission command as the exercise of authority and direction by the commander using mission orders to enable disciplined initiative within the commander's intent to empower agile and adaptive leaders.[1] "Distributed" mission command is an intensification of this definition hinting at a decentralization level which exceeds minimum thresholds for current unit command structures. Under distributed mission command conditions, commanders of corps, divisions, brigades, and battalions can rarely observe or control aviation forces to the level of detail enjoyed during the last 15 years. Captains and lieutenants frequently employ aviation companies and platoons autonomously in ever changing situations without detailed instructions from superiors. Also, captains, lieutenants, and air mission commanders often need to make decisions which are mostly reserved for aviation battalion or brigade commanders.

Six Principles of Mission Command[2]

- Build cohesive teams through mutual trust
- Create shared understanding
- Provide a clear commander's intent
- Exercise disciplined initiative
- Use mission orders
- Accept prudent risk

Considering the six principles of mission command, delegation of prudent risk acceptance authority is the largest impediment to the exercise of disciplined initiative in aviation operations. Aviation's risk management culture can be the culprit because it systemically challenges perceptions of mutual trust between senior and junior aviation leaders. This perceived lack of trust regarding "prudent" risk acceptance can hinder the exercise of disciplined initiative.

Army Aviation, correctly in my opinion, objectively manages risk via a measured process that places risk management under the science of control, but the more risk management categories are codified and measured, the less flexibility there is in the process. It is worth mentioning here that this is the intent of the system, but the lack of flexibility occasionally paralyzes junior leaders in the face of difficult and changing conditions. Overall, aviation units are very good at managing

The principles of mission command assist commanders and staff in blending the *art of command* ... ... with the *science of control.*

- ADRP 6-0

accidental risk, but the line blurs when tactical risk considerations increase to levels not previously experienced – such as in dispersed aviation operations. This problem often leaves junior aviation leaders confused and they default to seeking guidance from higher because they feel they do not have the authority to make the call.

It is rare for aviation battalion and brigade commanders to cede low, medium, or high risk mission approval below the company commander, field grade, or aviation brigade commander levels respectively. Failure to delegate risk acceptance authority has been an occasional problem during operations in Afghanistan and in the European Command area of responsibility, where aviation units consistently deploy in platoon size elements. Aviation battalions operating under distributed conditions often lament that three field grade officers are not enough to support mission command requirements when a battalion is disbursed to more than three locales at once, which has become the operating norm for deployed aviation units.

The assumption that more field grade officers serving at battalion level would fix things is dubious at best. Adding more field grades just exchanges captains and lieutenants for majors as the respective mission command node. This process would also further inhibit the same junior leaders from acquiring the experience necessary to achieve shared understanding with senior commanders regarding risk acceptance. Without experience to enhance shared understanding, exercise of disciplined initiative is rare for all but the strongest junior leaders.

With the lack of risk acceptance delegation and the limited presence of field grade approvers, Army Aviation has developed an over-reliance on technical solutions to inform and communicate risk acceptance decisions. Junior and senior aviation leaders use cell phones or other over the horizon voice communications to constantly clarify risk and mission approval decisions. This is the antithesis of disciplined initiative, and while it may work in our current situation, it is not the optimal solution, especially in the face of unpredictable enemy actions and capabilities, including jamming.

The hesitancy to delegate risk approval authority in aviation is often perceived by junior leaders as a lack of trust. This perceptual lack of trust hints at the larger problem which is the occasional manifest resistance of junior aviation leaders to exercise disciplined initiative. This trend has increased over the last five years as the underlying political conditions tend to foster a more risk averse culture Army wide. To overcome these problems, the Army Aviation branch should develop professional development and counseling gates aimed at officially "certifying" additional risk approval authorities within a battalion or aviation brigade. This would optimize formations for distributed mission command, allow us to train as we are now fighting, thereby, trusting junior leaders with more authority.

Under dispersed conditions, the necessary risk approval authority should be delegated to platoon leader or air mission commander levels as necessary to truly reap the benefits of disciplined initiative. To do this, senior aviation leaders should create the conditions to trust subordinate leaders to manage risk. In order to offset the inexperience of junior aviation leaders, commanders and senior warrant officers need to develop and provide specific professional development in the form of classes and counseling to establish shared understanding regarding acceptance of the proper level of risk in a manner similar to the method discussed in LTC Scott Halter's article in the Aviation Digest describing a method of developing air mission commanders.[3] Once professional development and counseling is complete, the proper command echelon should identify and certify contingency risk approval authorities in a manner similar to our air mission commander's program. The certification of risk approvers could even be a part of the air mission commander's program. Taking these steps would go a long way to empowering junior aviation leaders and fostering disciplined initiative for future operations.

[1.] U.S. Department of the Army, *Mission Command*, *ADRP 6-0* (Washington D.C.: U.S. Department of the Army, 2015), 1-1.
[2.] *ADRP 6-0*. 1-3
[3.] LTC Scott Halter, *"Developing Adaptive Air Mission Commanders," Aviation Digest* (April-June 2014) Volume 2 Issue2. 35

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Army Aviation ATTACKS!

Conditional Synchronized Integrated

By MAJ Scott E. McCraney

Field Manual (FM) 3-04, Army Aviation, the capstone manual of the Aviation branch's Doctrine 2015 initiative, sets the conditions for Army Aviation operations through the implementation of the Aviation Restructure Initiative (ARI) and beyond. The FM codifies Army Aviation's seven core competencies; how we integrate and operate as members of the combined arms team. The core competencies reflect Army Aviation's inherent mobility, speed, range, flexibility, lethality, precision, and persistent reconnaissance capabilities when conducting decisive action operations. This article focuses on the third core competency: destroy, defeat, disrupt, divert, or delay enemy forces, and how Army Aviation doctrinally conducts attacks.

Army Doctrine Reference Publication 3-90, Unified Land Operations defines the term attack as an offensive task that destroys or defeats enemy forces, seizes and secures terrain, or both. Historically, Army Aviation attacks have spanned from the hasty engagement of a target of opportunity during an area reconnaissance in Vietnam, to deliberately planned and executed attacks against enemy divisional elements in Iraq, to a team of two AH-64s disrupting an enemy ambush of a multinational force coalition patrol in Afghanistan. The point is, attacks will always depend on the commander's intent, the mission variables, and the commander's ability to synchronize and employ combat power at the most decisive point in time and space to gain and maintain a position of relative advantage.

Acknowledging that Army Aviation attack/reconnaissance elements conduct attacks against enemy forces in close contact with friendly ground maneuver forces, and against enemy forces out of contact with friendly ground maneuver forces, as stated in *FM 3-04*, we may now explore the taxonomy of attacks across the broad range of military operations. While unique considerations exist for both combined arms maneuver and wide area security, stability operations may also require attacks. The ability to apply lethal force discriminately and precisely for the ground maneuver commander is what makes Army Aviation such a critical member of the combined arms team. Whether the attack is in support of ground maneuver elements in contact or against an enemy out of friendly contact, the same prior planning and detailed integration augment the attack/reconnaissance element's situational awareness and understanding prior to engagement.

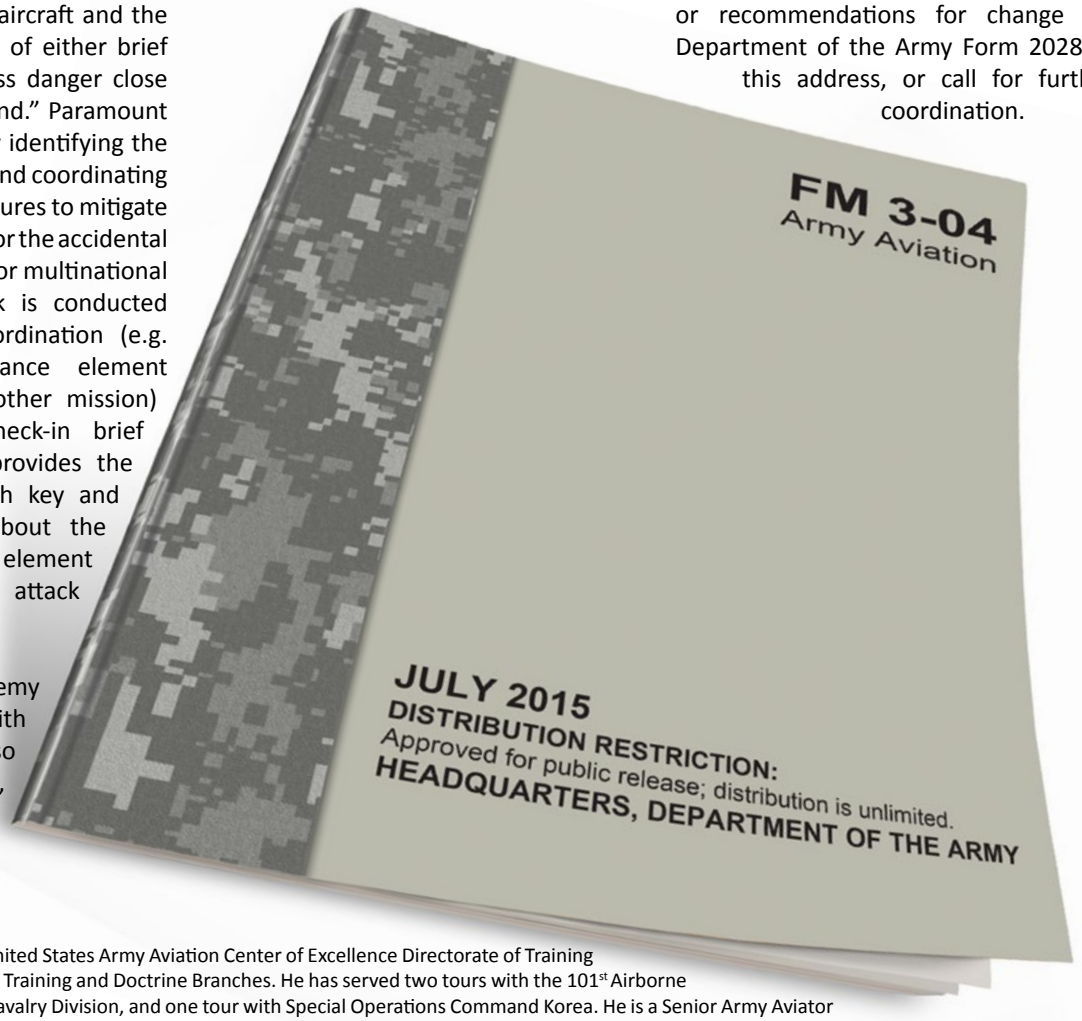
The level and detail of planning, integration, and synchronization with the supported ground maneuver force headquarters is a key aspect of all attacks. In air-ground operations, detailed planning and synchronization are augmented by unit standing operating procedures (SOP) and the habitual relationships that arise from planning and training together. A highly detailed plan supports the execution of deliberate operations while SOP and habitual relationships enhance the effectiveness

of hasty operations, yet we find mutual exclusivity of both parameters when conducting all attacks.

When attacks support a ground force in close contact (ICC) with the enemy, the standard 5-line attack aviation call for fire is used to transmit the information required to allow the attack/reconnaissance element to conduct the attack. Attacks in support of forces ICC are not always hasty. Integrating Army Aviation maneuver and fires into an operation where enemy contact is likely perhaps requires even more detailed integration than those attacks at greater distances from friendly lines. As noted in paragraph A-2, Appendix A of *FM 3-04*, if airspace has been cleared between the employing aircraft and the target then transmission of either brief is clearance to fire unless danger close or stated "at my command." Paramount to all attacks is positively identifying the supported ground force and coordinating appropriate control measures to mitigate the risk of fratricide, and/or the accidental engagement of coalition or multinational partners. If the attack is conducted with minimal prior coordination (e.g. the attack reconnaissance element was re-tasked from another mission) the air to ground check-in brief (Table A-1, *FM 3-04)* provides the ground commander with key and essential information about the attack/reconnaissance element that will assist further attack coordination.

Attacks against an enemy out of contact (OOC) with friendly forces may also be hasty or deliberate, and the coordination with the supported ground element is just as important as with an ICC attack. In these operations the attack/reconnaissance element typically has had greater time to develop and execute the plan, so more robust airspace control measures, fire support coordination measures, and graphic control measures may be in place to appropriately synchronize employment. An excellent example of an OOC attack is a joint air attack team operation. Under the control of the air mission commander, attack elements engage targets in a way that maximizes the individual effects of each attack platform, while operating with a detailed scheme of maneuver punctuated by specific control measures that regulate everything from blocks of airspace to timing of munitions impact.

Field Manual 3-04 sets the conditions for Army Aviation training and doctrine through the culmination of ARI. It is scheduled for review in January 2017. It broadly discusses attacks and the conditions where Army Aviation may best support the ground maneuver commander as an integrated member of a combined arms team. Army Aviation's tactical employment manual, will be published in January 2016, and will provide fundamental information for attack planning and operations. The United States Army Aviation Center of Excellence Directorate of Training and Doctrine may be contacted via email at usarmy.rucker.avncoe.mbx.doctrine-branch@mail.mil, or DSN 312-558-3551. Please send comments and/or recommendations for change via Department of the Army Form 2028 to this address, or call for further coordination.



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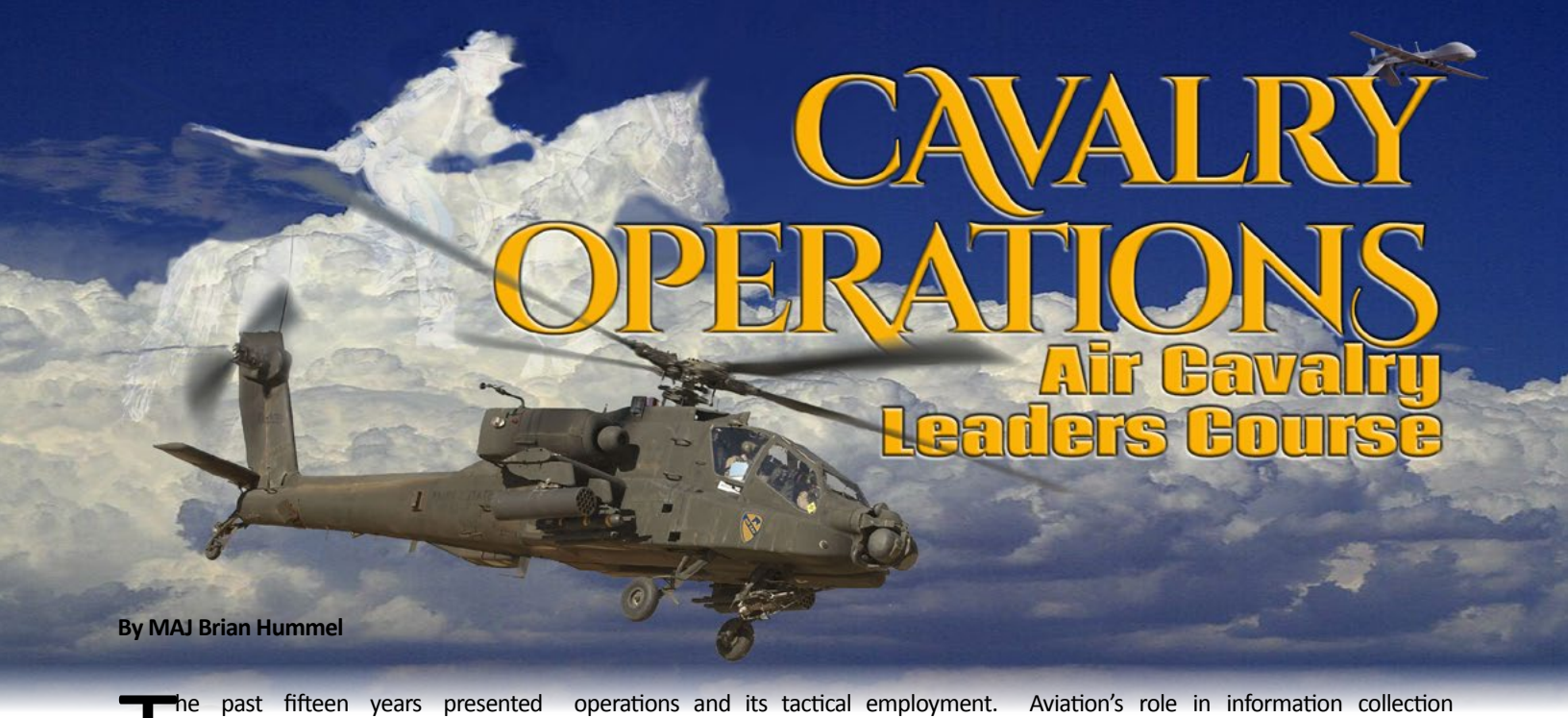
Acronym Reference

ARI - Aviation Restructure Initiative
FM - field manual
ICC - in close contact
OOC - out of contact
SOP - standing operating procedures



CAVALRY OPERATIONS

Air Cavalry Leaders Course

By MAJ Brian Hummel

The past fifteen years presented many debates about the future of cavalry in the United States Army as innovation and technology influenced our reconnaissance and security capabilities. At the turn of the century, many leaders insisted that, given the nature of the likely threats we would face and the migration of warfare into complex urban terrain, the introduction of sophisticated ground and air sensors would ultimately replace the need for traditional cavalry formations. Our combat operations in both Iraq and Afghanistan proved the opposite. Innovations in technology, especially sensor technology, greatly increased the capabilities of cavalry organizations. However, the limitations and vulnerabilities demonstrated in sensor technology also increased the need for organizations that are specially manned, trained, and equipped to perform reconnaissance and security missions. In response to this challenge, a new Air Cavalry Leaders Course (ACLC) at the United States Army Aviation Center of Excellence trains and evaluates an aviation leader's ability to plan, prepare, execute, and assess reconnaissance and security operations in the decisive action training environment (DATE) against a hybrid threat.

The ACLC consists of a rigorous two week long academic course. The course teaches future cavalry leaders an in-depth understanding of reconnaissance and security operations through academics, practical exercises, and simulations to obtain a doctrinal understanding of cavalry operations and its tactical employment. Leaders correlate intelligence requirements and synchronize reconnaissance assets to enable commanders to understand and to make decisions in their operational environment. The ACLC enhances the cavalry leader's ability to conduct the military decisionmaking process (MDMP) and troop leading procedures (TLP) with a focus on parallel planning to achieve desired reconnaissance and security objectives.

The target audience for the ACLC are AH-64D/E and OH-58D pilots, and Unmanned Aircraft Systems (UAS) Technicians (150U) and Operators (15W). Course requirements are that attendees be graduates of the Aviation Captains Career Course or Aviation Warrant Officer Advanced Course and 15Ws must be assigned to squadron staff or higher with the instructor operator identifier. The course will carry an additional skill identifier, which will be required by Fiscal Year 2018 for certain assignments in attack reconnaissance squadrons (ARS).

The ACLC nests with the Maneuver Center of Excellence Cavalry Leaders Course at Fort Benning, Georgia, as the fundamentals of reconnaissance and security remain the same for both air and ground operations. The course teaches and trains the essential principles of reconnaissance and security operations in *Field Manual (FM) 3-98, Reconnaissance and Security Operations* and *FM 3-04, Army Aviation*. The course focuses on nesting concepts with ground cavalry squadrons to further increase Army Aviation's role in information collection (IC) in support of the brigade combat team (BCT). Students cover a multitude of academic topics, including:

- MDMP and the parallel planning process
- Cavalry squadron design and capabilities in the Armored, Stryker, and Infantry BCT
- Hybrid threat in the DATE
- Integration of fires and joint firepower assets
- The cavalry planning principles (ACLC tactics, techniques, and procedures)
- Troop leading procedures and troop planning cells for deliberate operations
- The fundamentals of reconnaissance and security with a focus on reconnaissance management, reconnaissance techniques, and commander's reconnaissance and security guidance
- Manned-unmanned teaming and the integration of UAS assets to support the ground scheme of maneuver

The ACLC instructors lead the class through guided discussions and execution of the first mission while simultaneously teaching classes on the above topics in the context of the course. Students also conduct practical exercises on MDMP and hybrid threat to enhance their understanding of developing the enemy situation and

the conduct of doctrinal MDMP during the parallel planning process. All mission scenarios are reconnaissance and security focused and provide ample opportunity for students to build proficiency in planning at the squadron and troop levels. Students plan and execute their first mission at the troop level in constructive simulation using the Virtual Battlefield System 3 (VBS-3) in an effort to develop the future of Games for Training as a collective level training tool. The first week's focus on the fundamentals of cavalry tactics, MDMP, TLP and the parallel planning process sets the foundation for success in the second week of the course. (See Figure 1.)

The second week shifts focus from doctrinal MDMP to teaching and familiarizing students with the cavalry planning process. FM 3-98 states:

> "Commanders implement early IC and security to help protect and prepare the force for execution. Cavalry units should deploy in the planning phase to shape preparation activities and execution. Commanders take every opportunity to improve their situational understanding before execution of the mission which requires aggressive and continuous IC from cavalry forces. Through IC, commanders and staffs continuously plan, task, and employ collection assets and forces to collect timely and accurate information to help meet commander's critical information requirements and other information requirements."[1]

Because cavalry squadrons conduct a unique and essential role in support of the BCT, cavalry forces begin mission execution before the BCT planning process is complete (see Figure 2 on next page) and usually conduct operations just after the BCT completes step 2 (mission analysis and issuance of warning order 2) of the MDMP process. Cavalry organizations use two main reconnaissance techniques—reconnaissance pull and reconnaissance push—to further assist the BCT during steps 3 (course of action (COA) development) through 6 (COA approval) of MDMP. ACLC teaches students to leverage the cavalry planning principles to plan in a time constrained environment. Essentially a modification of MDMP, the planning principles emphasize rapidly developing a plan and the most important staff products to support execution, such as: enemy situation templates, the IC plan at the squadron and BCT level (IC matrix), the synchronization matrix, and operational graphics. The products result from thorough, but rapid, intelligence preparation of the battlefield, COA development, and war-gaming, such that proper application of the principles still produces a plan the students can execute.

In the second week of ACLC, students assume leadership roles at the squadron and troop level to lead the planning and execution of missions. They prepare and present two major briefings for each mission—the mission analysis and the operations order briefings. From their planning and analysis, the students produce at least five desired outcomes that include two enemy COAs, a refined commander's critical information requirements list, an IC plan, a synchronization matrix, and a decision support matrix to accompany

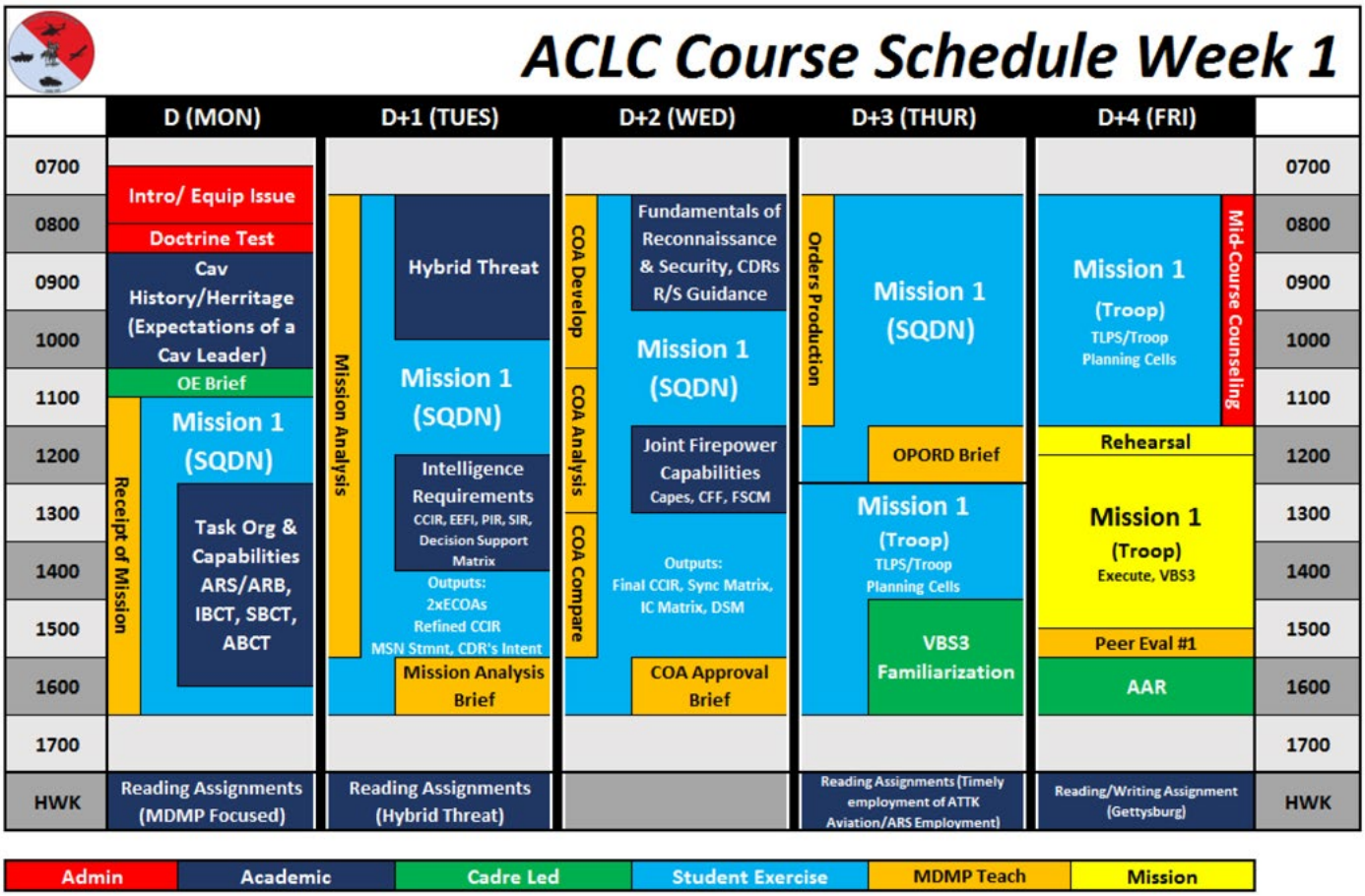


Figure 1. ACLC Week One Course Schedule

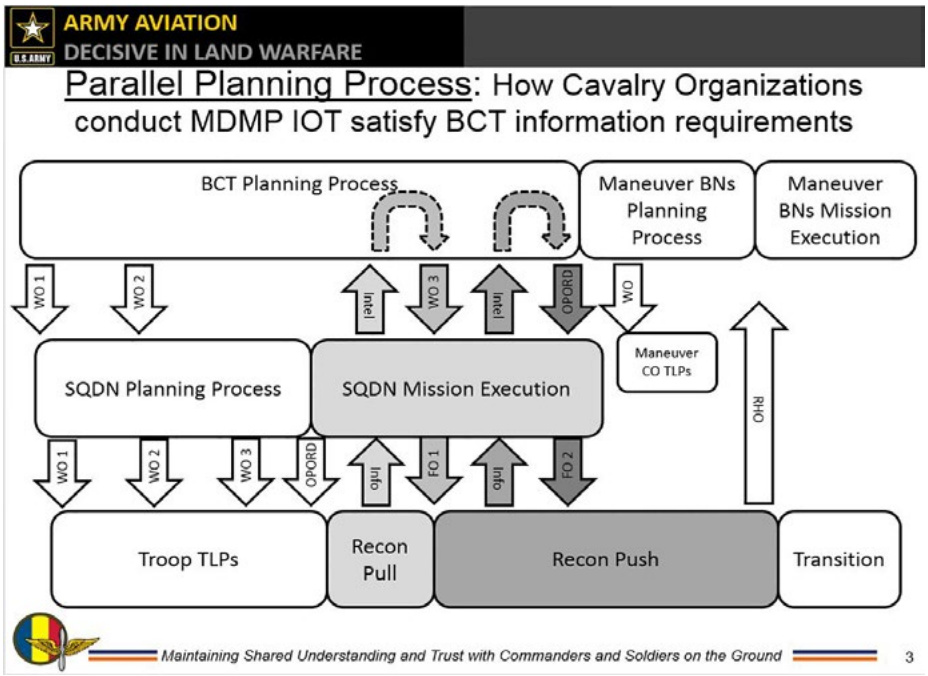


Figure 2. The parallel planning process (ACLC TTP).

their overall plan. Upon completion of a successful plan and brief at the squadron level, the students assume troop positions to conduct TLP and troop planning cells on the mission they planned at the squadron level. When the students conduct TLP off their own products, they begin to understand the importance and role of proper planning at the squadron level. Each mission is reconnaissance and security focused, and the timeline includes rehearsals and back briefs before heading to simulation for execution.

The course includes two doctrine exams, a mid-course counseling evaluation, a final practical exercise evaluation, and two peer evaluations. To receive a course certificate, students must achieve a minimum of 70% on each individual category and an overall 80% score for the course. Students also complete nightly homework, which consists of both reading and writing assignments. The course will ultimately be a prerequisite to serve in 21 positions in the attack reconnaissance battalion and 23 positions in the ARS.

The ACLC's rigorous pace and content is essential to develop the future leaders in the ARS. With an advanced understanding of reconnaissance and security operations, our graduates effectively develop, refine, and correlate intelligence requirements and doctrinally apply MDMP, TLP, and the cavalry planning principles in support of BCT planning. We receive young leaders and after two weeks send cavalry leaders back to combat aviation brigades equipped with the knowledge and experience to directly impact the success of the ground commander.

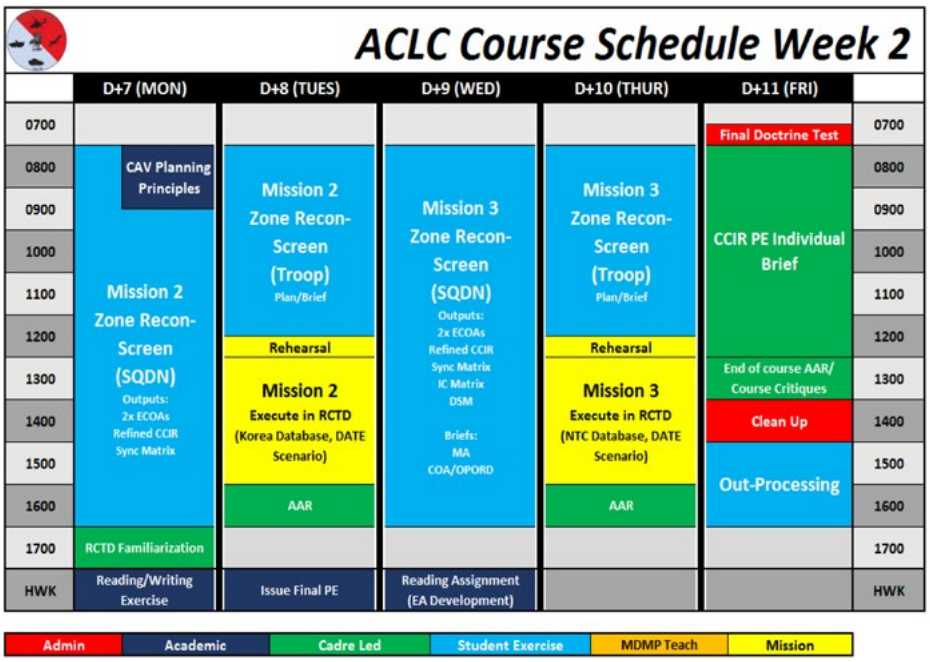


Figure 3. ACLC Course Schedule Week 2

1 U.S. Department of the Army, *Reconnaissance and Security Operations, FM 3-98* (Washington D.C.: U.S. Department of the Army, 2015), 1-6.

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Acronym Reference

15W - Unmanned Aircraft System Technician
ACLC - Air Cavalry Leaders Course
ARS - attack reconnaissance squadrons
BCT - brigade combat team
DATE - decisive action training environment
COA - course of action
FM - field manual
IC - information collection
MDMP - military decisionmaking process
TLP - troop leading procedures
UAS - unmanned aircraft systems

MOBILIZING THE OTHER HALF OF ARMY AVIATION

Observations from the 2-291st Aviation Regiment

By MAJ Aaron Grant

The National Defense Authorization Act (NDAA) 1993, designates the commander (at a brigade or higher level) of the associated active duty unit for any Reserve Component (RC) unit shall be responsible for approving the training program of that unit; reviewing the readiness report of that unit; assessing the manpower, equipment, and training resources requirements of that unit; and validating, not less often than annually, the compatibility of that unit with the active duty forces.[1]

As First Army's aviation validating authority, the 2-291st Aviation Regiment, advises, assists, trains, and validates over 50% of aviation formations in pre- and post-mobilization environments in order to provide trained and ready Army Aviation forces to combatant commanders in accordance with the NDAA and the Army Total Force Policy. This is accomplished through pre-mobilization and post-mobilization planning and aviation training at Fort Hood, TX and other approved training areas. This includes evaluation, assessing, and training of flight crews from individual tasks through collective tasks for RC and National Guard aviation units.

The Army's Total Force Policy (ATFP) prescribes how Active Component (AC) and RC forces and capabilities are integrated at the tactical level (division and below), including some pre-deployment collective training of tactical-level organizations that will routinely deploy as multi-component forces. The ATFP also ensures that the procedures and processes for validating the pre-deployment readiness of assigned forces are uniform for AC and RC units and Soldiers. Army commanders will be responsible for certifying personnel readiness and individual training for assigned personnel. "Standards for qualification and professional development will be the same for AC and RC personnel." [2]

The overall goal is to ensure post-mobilization training is accomplished in the most efficient and effective manner, allowing for the best use of training efforts in the limited amount of programmed training time in order to provide combatant commanders fully mission qualified aviation battalions, companies and detachments. In order to do this, training to Forces Command (FORSCOM) standards and requirements, requires inherent responsibilities which must be placed on the mobilizing unit prior to their arrival at Fort Hood in order to maximize the value of pre-deployment training.

The 2-291st Aviation Regiment Observer Controller/Trainers (OC/T) have analyzed multiple mobilization readiness exercises and identified training preparation shortfalls that have significantly increased the length of the post-mobilization single integrated training requiring unscheduled access to training resources (ranges, OC/T time, ammunition) and increased funds. The most common shortfalls and recommendations to correct them follow.

Post-mobilization Training Readiness

There is a common misperception by mobilizing units that if they are unable to execute individual training such as readiness level (RL) progression, aerial gunnery, high altitude mountain environment training, or dunker/shallow water egress training during pre-mobilization, the training can be made up during post-mobilization. This training shortfall usually occurs due to budget constraints at the state level. The assumption is that the unit can use Overseas Contingency Operations funds during post-mobilization training while at Fort Hood to accomplish these tasks. What units fail to recognize is that the focus on individual training during post-mobilization decreases the time allotted to execute effective collective training at the company level and above. Some units are arriving at the mobilization station with RL progression levels too low to accomplish collective training upon arrival and often below FORSCOM standards (<85%). Excessive training resources are being consumed to bring aircrews up to required RL progression levels at the expense of collective training time. When units arrive fully RL progressed, to include night vision goggle requirements, more focus may be given to multi-ship operations, environmental training, and advanced tactics replicating deployment conditions.

The recommendation is for units to accomplish the majority of their deployment requirements to include dunker and environmental training before arrival to the post-mobilization site. State adjutant general memos allow for units to accomplish the majority of their requirements before arrival and are acceptable as long as the tasks, conditions, and standards are met and annotated within the unit. Units must be familiar with both FORSCOM guidance and comply with Force Tracking Number training requirements prior to showing up at the mobilization station. During the Joint Assessment process, a clear contract will be established between First Army and the deploying unit/state outlining which events will be conducted pre-mobilization and which will be conducted post-mobilization. It is up to the mobilizing units to ensure states accurately budget time and money for individual training. Only under extreme circumstances will this contract be adjusted after the JA. Units receiving a short notice of sourcing (< 6 months) may be allowed to execute some individual training events post-mobilization. If that becomes the only option, however, the unit must be required to show cause to First Army as to why the training cannot be conducted pre-mobilization through a state adjutant general memorandum.

Mission Command

Prior to arriving at Fort Hood for post-mobilization training, battalion and brigade staffs need to focus on developing a clear understanding of the mission command principles and how to put them into practice. Staffs are expected to develop and utilize a communication plan, in progress reviews, mission rehearsals, back briefs, and real time mission tracking procedures while maintaining and updating running estimates which aid in the commander's visualization and ability to base future decisions. Familiarization and proficiency on the Army Battle Command System, Tactical Airspace Integration System, and other mission command systems prior to arrival are also a brigade level requirement that needs additional focus and training.

Battalion staff officers, unfamiliar with the military decisionmaking process (MDMP), are attempting to conduct abbreviated mission planning without fully understanding the complete process. This has historically led to confusion in the steps of the MDMP. Examples of poor planning are apparent when conducting mission analysis without S-2 and the aviation mission survivability officer's input, a lack of war gaming course of action (COA), and seeking COA approval before all analysis is complete. Refining battle rhythm(s) and standing operating procedures (SOP) will greatly improve staff operations, especially at the brigade level. More focus needs to be on developing and maintaining running estimates in order to provide the commander a continuous assessment of the current situation so they may determine if the current operation is proceeding according to the commander's intent and if planned future operations are supportable. [3]

Air Assault Operations

Units must focus on developing an integrated process that synchronizes the efforts of the air assault task force commander, air mission commander, flight lead, and battalion staff functions. They need to develop standardized products to simplify processes to alleviate much of the work load. The commander must identify the personnel who will facilitate each of the required briefings, clearly define mission roles and responsibilities, ensure all elements understand their role in the mission, and ensure that liaison officers are imbedded in the planning process. Additionally, we have identified that added focus on developing and conducting effective rehearsals and meaningful after action reviews has been a shortfall of post-mobilization training units.

Medical Evacuation

Units must establish mission sets in their SOP to include pre-hoist mission execution checklists, "Patient Run Sheets," and combat support hospital familiarity. Units must incorporate command post and S-2 integration from the initial receipt of mission through aircraft launch.

Maintenance Operations

Commanders must plan to support any detachments arriving at the mobilization site without organic maintenance support as maintenance is not readily available to support post-mobilization training units at Fort Hood. Units must integrate maintenance actions into all aspects of mission planning and daily operations. The focus includes real time updates between elements, taking advantage of expertise within respective elements, using every possible situation to train, and cross train (grow your own) maintenance skills while ensuring junior soldiers understand complex terminology, processes, jargon and doctrinal concepts associated with maintenance operations.

Flight Records

Units have been arriving at the Fort Hood mobilization station without the correct Centralized Aviation Flight Records System (CAFRS) software (version 4.0) loaded on their computers. The CAFRS maintainers that arrive at Fort Hood must bring a standalone computer whose sole purpose is to operate the CAFRS 4.0 software. Units not stationed at Fort Hood are not permitted to connect their

CAFRS computer into the network due to Fort Hood Network Enterprise Center security restrictions. The CAFRS software must be loaded, to include all current patch updates, and tested to ensure it operates properly, prior to leaving home station. CAFRS maintainers should come equipped with all operator's manuals and user guides.

As crewmembers arrive for post-mobilization training, they should be prepared to begin flight operations following arrival. This is not always the case and leads to all unit personnel not readily available for individual and collective training events. Crewmembers should arrive with valid up-slips and have completed a full flight exam within their Annual Proficiency and Readiness Test window prior to arriving at Fort Hood. All physicals must be documented on DD 2992 Medical Recommendation for Flying or Special Operational Duty as the prior form DA 4186 Medical Recommendation for Flying Duty is now obsolete. The DD 2992 must be complete and all required signatures present on the form prior to initiating flying. If required, physicals may be scheduled in advance with the flight surgeon prior to arrival.

Other notable shortcomings of units arriving for post-mobilization training include individual aircrew training folder (IATF) closeouts that are not up to date, IATFs that are not entered in the CAFRS system, and reading card files that are not kept current. Flight records must be closed out prior to arrival at Fort Hood if there is a change in CAFRS custodian (i.e. a different Aviation Operations Specialist will be deploying in charge of records) or if the unit identification code (UIC) changes. All unit individual flight records folder and IATF records should accompany the records custodian and should be maintained according to the appropriate publication.

Setting the Conditions for Success

The most effective units arriving for post-mobilization training have certain things in common. Brigades, battalions, and task forces comprised of a mix of units and even a mix of AC and RC units were successful in nesting their pre-mobilization training events and status tracking by assisting one another through cross state/organization coordination, and working through training issues, equipment shortages, and personnel issues in advance of the post-mobilization training. In order for this to occur, every unit must ensure they are submitting timely and accurate reporting statistics for their UIC to their parent organization. Furthermore, all leaders and individuals must maintain situational awareness within their organizations regarding *Army Regulation 350-1 Army Training and Leader Development* requirements such as status of security clearances, status of individual additional skill identifiers, medical and dental readiness issues, Medical Protection System, and other administrative training requirements, ensuring they do not expire prior to, or while at the mobilization site and possibly unnecessarily delay or prevent individual participation in unit training events.[4]

Units should participate in as many digital training events as possible prior to arriving at the mobilization site since these exercises have historically directly contributed to unit preparedness and success at validation.

All of these considerations, when planned into a unit's mobilization will help ensure a successful training experience. Although the training battalion prides itself on meeting the deploying commander's training objectives, and is considered very flexible in meeting exogenous issues and factors, certain finite resources (specifically allocated training time) still exist and remain a constant hindrance which may easily be overcome by showing up prepared.

1. National Defense Authorization Act for Fiscal Year 1993, Sec 1131
2. Secretary of the Army. Army Directive 2012-08 (Army Total Force Policy), 4 Sep 2012
3. U.S. Department of the Army, The Operations Process, ADP 5-0 (Washington D.C.: U.S. Department of the Army, 2012).
4. U.S. Department of the Army, Army Training and Leader Development, AR 350-1 (Washington D.C.: U.S. Department of the Army, 2014).

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Acronym Reference

AC - active component
ATFP - Army's Total Force Policy
CAFRS - Centralized Aviation Flight Records System
COA - course of action
FORSCOM - Forces Command
IATF - individual aircrew training folder
MDMP - military decisionmaking process
NDAA - National Defense Authorization Act
OC/T - Observer Controller/Trainers
RC - Reserve Component
RL - readiness level
SOP - standing operating procedures
UIC - unit identification code

READINESS REPORTING: Are We Ready?

By COL (RET) Jimmy Meacham

Army military and civilian leadership needs the ability to clearly understand and accurately represent the Army's state of readiness as a measure of its ability to conduct wartime missions. The current training and readiness reporting systems lack precise language resulting in varied levels of actual unit readiness reported as combat ready. This ambiguity in language includes the clearly defined set of conditions under which tasks must be performed, the resources required to complete the task, definitions of what criteria (standard) must be met to progress to the next level of proficiency, and finally, the role of the higher commander in providing an unbiased evaluation of subordinate unit readiness. The current systems are very subjective, enabling commanders the maximum flexibility in interpreting training and reporting requirements. Under this flexible environment, innovative and motivated commanders have been training their units to the highest attainable level of proficiency, within the allocated resources, and reporting what they felt to be the intended end-state - readiness to deploy. The lack of objective task evaluation criteria introduces the opportunity for overconfidence in attained task proficiency and a potentially false impression of unit capability. Army senior leaders established a working group tasked with recommending changes to our current training and readiness reporting systems to foster confidence in the accuracy, applicability, and objectivity of the information presented for use in making deployment and resourcing decisions.

Assess				
Critical Performance Measures	Leader Performance Measures	Sub-Unit Assessment	Task Assessment	
All	≥90%	T	T	
	80-89%		T-	
		T-	P	
	<80%	P	P-	
		P-	U	

The working group presented recommendations at the Chief of Staff of the Army's 2015 Army Training and Leader Conference which endorsed the following concept for implementation.

Standardized Mission Essential Task List

The recent practice of deploying units below brigade combat team/brigade level highlights a needed change in training and reporting standards. When the Army transitioned to a brigade-centric force, it standardized brigade mission essential task lists (METL), by type unit, to establish a baseline for training and readiness reporting. Subordinate units developed essential task lists in support of the higher headquarters' METL. While some variation in METL would be expected because of geographic location and environmental conditions, the result of this process was that like-type units developed vastly different essential task lists in both task focus and quantity. Two similar units reporting readiness to conduct combat operations were, in reality, reporting against different standards and capabilities. The new reality of deploying less than brigade sized units led the work group to recommend standardization of unit METL down to company sized organizations, by type. This approach enables focused training and readiness reporting against standard task lists for similar type and sized organizations based on designed capabilities.

Standardized Task Proficiency Standards

After we standardize "what" tasks a unit must train and report against, we must address "how" a unit achieves and reports readiness against that capability. Current training and reporting doctrine lacks clearly defined standards. Ambiguity and subjectivity derive from the use of terms like "most" and "many" when referring to the percentage of core functions and fundamental capabilities a unit must successfully demonstrate to achieve successive levels of readiness. "Most" can be assumed to be somewhere above 50% while "many" is even less well defined. The working group recommended an increase in the number of task assessment categories

from TPU for trained/needs practice/untrained to fully trained (T), trained (T-), practiced (P), marginally practiced (P-), and untrained (U) to add more objectivity and precision to the process of reporting training readiness. Each of these training assessment categories would be defined by criteria specifying the complexity of the operational environment, the presence of a live-fire component, the percentage of authorized leaders and Soldiers participating, the need for external evaluators, and the percentage of performance measures (leader, critical, and overall) which must be successfully completed to achieve each rating for the selected collective task. These criteria would be included in matrix format as part of the Training and Evaluation Outline (T&EO) for each collective task and accessible through the Digital Training Management System. An example of what a task evaluation, conducted by an external evaluator using a T&EO and the proposed evaluation matrix, might look like the example in Figure 1.

Unit Training Management

The proposed evaluation matrix not only serves to define the conditions necessary to achieve the desired training outcome but also aids in the identification of resources required to support a unit's training plan. As depicted in Figure 1, the ability to achieve the outcome of a "T" at this task requires a dynamic and complex operational environment, a range, a maneuver area/airspace, Soldiers available to participate in the training event, and external evaluators. During the development of the unit training plan, analysis of the evaluation matrix will identify the need to coordinate for the resources associated with the desired outcome of the task for execution as part of a training event.

Commander to Commander Dialogue

Periodic communications between unit leadership and higher headquarters ensure synchronization of effort during development of the unit training plan. A commanders' dialogue with the next higher commander discussing results of the mission analysis should include prioritization of standardized METL, any additional directed essential tasks, the unit's objective training level based on time and priority within the force pool, and any identified resource gaps requiring the higher commander's support to obtain. The unit training plan developed, based upon this guidance, should be presented in a training briefing to the commander two levels up. The training briefing results in a contract between commanders. The unit commander agrees to train as described in the plan. The commander two levels above approves the plan and agrees to protect it and provide the resources to execute it.

Task evaluation matrices could assist planning and commanders' exchanges as a means to clearly demonstrate resource requirements and risks associated with resource shortfalls. If the higher commander commits to providing the required resource support, the training plan should stand as briefed. If higher is unable to resource the support required

Task Evaluation using the Training & Evaluation Outline

Evaluator Notes

- Attack Recon BN
- OE: Urban Terrain with civilians, local government allegiance questionable; recent invasion by hostile third party nation
- Hybrid Threat; irregular forces w/ conventional support present, conventional OPFOR is air defense capable (MANPAD)
- Training is integrated; BN TOC at MTC, 2X COs at FTX
- 1 X Co at LFX
- 1 X Gray Eagle in support
- The task is trained over 48 hours
- External Evaluators provided by sister BN

Commanders retain the ability to subjectively upgrade or downgrade at essential task level – CDR to CDR dialogue

Commander's Comments:
1. Subjective downgrade to P-, unit failed to fully and continuously synchronize fires with supported ground maneuver unit.
DTG: 14 Jun 15

Task # 01-1-8109: Conduct Aerial Attack Missions (BN) Performance Measures

Step	Description	GO	NO-GO
1.*	The commander initiated the military decision making process (MDMP).	X	
2.*	The BN/Sqdn staff completed the MDMP and issued orders to conduct an attack.	X	
3.	The Bn/Sqdn Staff submitted requests for intelligence support (JSTARS, ELINT)		X
4.	The Bn/Sqdn conducted the Air Mission Brief and Commander's Brief Back	X	
5.	The Bn/Sqdn liaison officer (LNO) Team deployed as required by the OPORD.	X	
6.	The Bn/Sqdn FARP support personnel and equipment deployed to support the attack.	X	
7.*	The Bn/Sqdn commander issued the OPORD using the five-paragraph OPORD.	X	
8.	Aircraft launched on time, on designated and approved routes, for the engagement area.	X	
9.	Coordination with BCT commanders is completed and transmitted to the AMC.		X
10.+	Bn/Sqdn aircraft and crews conducted aerial attack missions.	X	
11.+	Bn/Sqdn staff reported critical information.	X	
12.*	Commander/leader performs, or delegates performance of, the steps in the risk management (RM) process for each step in the military decision-making process (MDMP)	X	

ITERATION:	1	2	3	4	5	M	T
TOTAL TASK STEPS EVALUATED	12						
TOTAL TASK STEPS GO	10						
TRAINING STATUS GO/NO-GO	83%						
TOTAL CRITICAL MEASURES	2						
TOTAL CRITICIAL MEASURES GO	2						
CRITICAL MEASURES STATUS	100%						

% of Leaders Present: 72%
% of Personnel Present: 78%
* = Leader Performance Measures
+ = Critical Performance Measures

Plan and Prepare							Execute				Assess	
Operational Environment			J L X	Training Environment (LVMC/G	% Leaders Present at Training / Authorized	% Present at Training / Authorized	External Eval	Performance Measures	Critical Performance Measures	Leader Performance Measures	Sub-Unit Assessment	Task Assessment
Dynamic & Complex	Night	Hybrid Threat	Yes	LFX/FTX	≥85%	≥80%	Yes	≥90% GO	All	≥90%	T	T
Dynamic or Complex				FTX	75-84%			80-89% GO		80-89%		T-
Static Simple	D	Regular or Irregular Threat	N	FTX	65-74%	75-79%	N	65-79% GO	<All	<80%	T-	P
				FTX/VBS3	<60%	<60%		51-64% GO			P-	P-
								< 50% GO			P-	U

Figure 1.

for a specific task, the training event could still continue with a decrease in the attainable readiness objective for the specific task in accordance with the matrix. Any support short of that required by the evaluation matrix to achieve the targeted readiness level should be accompanied by a discussion on the resulting risk and impact to the training plan between the commander of the unit performing the task and his commander.

Sub Units	CAB T1/BN T1	CAB T2 / BN T2	CAB T3 / BN T3	CAB T4 / BN T4
Attack Reconnaissance Squadron	SQDN LFX TRP CALFEX	SQDN or AVTF FCX Gunnery Table XII (TRP LFX) FARP Convoy LFX	Gunnery Table IX (TM/PLT Qual)	Gunnery Table VI (Crew Qual)
Attack Reconnaissance Battalion	BN LFX CO CALFEX	BN or AVTF FCX Gunnery Table XII (CO LFX) FARP Convoy LFX	Gunnery Table IX (TM/PLT Qual)	Gunnery Table VI (Crew Qual)
Gray Eagle Company	Integrated in CALFEX and BN/AVTF LFX	Integrated Gunnery Table XII (MUM-T) Integrated in AVTF FCX	Gunnery Table IX (MUM-T Qual)	Gunnery Table VI (Crew Qual)
Assault Battalion	AVTF LFX CO CALFEX	AVTF FCX Gunnery Table XII (CO LFX) FARP Convoy LFX	Gunnery Table IX (TM/PLT Qual)	Gunnery Table VI (Crew Qual)
General Support Battalion	AVTF LFX CO CALFEX	BN or AVTF FCX Gunnery Table XII (CH PLT LFX) FARP Convoy LFX	Gunnery Table IX (TM Qual)	Gunnery Table VI (Crew Qual)
Avn Support Battalion	CO Convoy LFX	Platoon Convoy LFX (DART and FARP)	Mounted Gunnery (Section Qual)	Mounted Gunnery (Crew Qual)

-Supported by TC 3-04.45 and STRAC.
-Annually qualify 85% of CO/TRP crews on GTs VI, IX, XII and CALFEX.
-Annually Train ARB and HARS on BN/SQDN LFX and AVTF FCX.
-Annually Train AHB and GSAB on AVTF LFX and FCX.

Figure 2.

Gunnery Gates

Another component of standardizing training and readiness reporting is the development of a gated gunnery strategy that identifies live-fire proficiency requirements which must be achieved to progress to successive levels of readiness. Gates are defined by unit type and echelon, qualification or training event, and corresponding unit training proficiency level. Figure 2 is an example of what gated aviation gunnery requirements may look like. Past training focused on the company level while the trend for the future may move to include proficiency of larger formations. The potential need to conduct combined arms maneuver with a smaller Army against a near-peer enemy could influence an increase in the size of unit upon which we focus our gunnery readiness objectives.

Sustaining Readiness

The Army requires a flexible and responsive method of identifying and resourcing units to meet projected deployable force requirements to address "when" a unit must be ready. The intended outcome is elimination of the "readiness cliff" drop in capability that units in the past experienced upon return from deployment. Our smaller Army cannot meet its requirements without every element maintaining a level of readiness enabling it to quickly achieve a decisive action capable status. An approach being considered is to establish a set of progressive quarter-long modules which define a unit's resource priority and readiness objectives. Following the projection of force deployment and mission requirements into the foreseeable future and identification of units to meet these demands, progressive readiness modules could be assigned to units. These modules would be assigned to units identified with near-term mission requirements in a rapidly progressive method and reference resourcing and readiness objectives to prepare them to meet their mission requirements. Those units with a far-term mission requirement would be assigned a succession of lower priority quarterly readiness modules until they approach their mission requirement window. This approach provides greater flexibility than the standard two-year Army Force Generation model of the past, allowing more precise application of resources and clear transmission of the readiness level expectations for units. Those units without a projected mission within the planning window may be assigned a succession of lower priority modules which will maintain their ability to rapidly progress to a higher readiness level should unforeseen mission requirements emerge. The limited number of Aviation units and historically high demand for their presence will likely drive the assignment of the higher levels of readiness modules to most Aviation units.

Summary

In a world of constant change, the Army must anticipate future requirements and change in preparation for, rather than reacting to, future demands. Global unrest, force reductions, and an uncertain fiscal environment are key considerations influencing this analysis. These uncertainties reinforce the need for change in the training and readiness reporting systems to enable clear understanding and accurate portrayal of the Army's readiness to deter conflict when possible and win convincingly when necessary.

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Acronym Reference

METL - mission essential task lists	**T-** - trained
P - practiced	**T&EO** - Training and Evaluation Outline
P- - marginally practiced	**TPU** - trained / needs practice / untrained
T - fully trained	**U** - untrained

DEPICTING A COMPLEX WORLD FOR ARMY TRAINING

By Mario J. Hoffmann

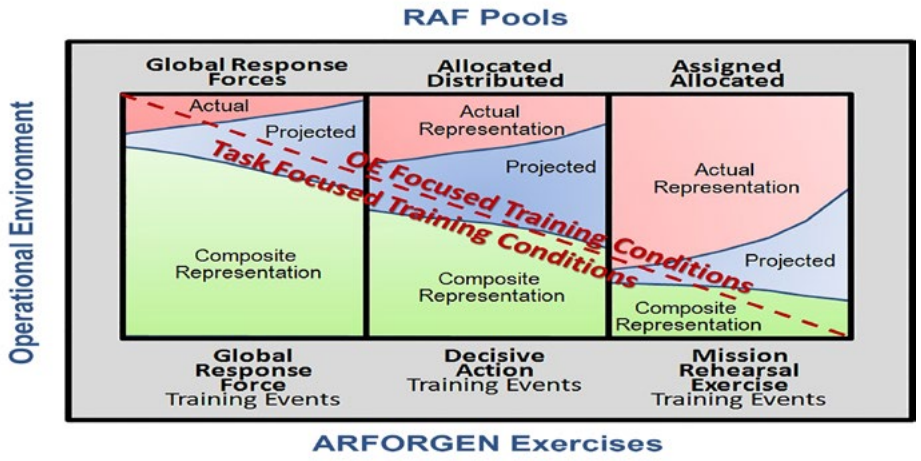
Attack helicopters circled around their objective while ground forces executed a raid on a terrorist training camp as part of their out-of-sector mission while training at the Joint Multinational Readiness Center (JMRC) in Hohenfels, Germany. But unlike training conditions throughout the last decade that imitated operations in Afghanistan and Iraq, this opposing force (OPFOR) replicated the hybrid nature of global threats with near-peer capabilities, and were equipped with notional man-portable air defense systems (MANPADS). Unfortunately, the OPFOR MANPADS was incapable of stimulating the aircraft common missile warning system, meaning the aircraft early warning systems did not activate to alert the pilot … so despite being observed and fired upon by the OPFOR, the attack helicopter pilot continued to fly dangerous and outdated aerial patterns without consequences. Needed was a man-portable aircraft survivability trainer (MAST) that replicates the effects of a threat MANPADS, both visually and through electromagnetic means, which provides the pilot the realistic stimuli upon which to react, and consequently learn from his reactions. This article illustrates the difficulties of depicting the complexities of the operational environment (OE), explores innovative means for depicting such within training, and provides examples of ongoing initiatives within the OE Enterprise.

> *"One of our most important duties as Army professionals is to think clearly about the problem of future armed conflict in a complex environment that is not only unknown, but unknowable and constantly changing. The Army cannot predict who it will fight, where it will fight, and with what coalition it will fight."*
>
> - GEN David G. Perkins, CG, TRADOC

Training conditions must reflect the proper and realistic complexities of the OE for commanders to draw upon lessons learned. The lack of resources to develop, procure, and sustain required OE/OPFOR training aids, devices, systems, and simulations (TADSS) drives the need for innovation across the live, virtual, constructive and gaming environments. Because there is no clear and discernible threat or inherent OE that defines future conflicts, training OEs must reflect a composite of the conditions, circumstances, and influences that affect the employment of military forces and bear on the decisions of the unit commander.[1] Training environments must account for all operational variables as prescribed in *Army Doctrine Publication 3.0, Unified Land Operations* (political, military, economic, social, information, infrastructure, physical terrain, and time [PMESII-PT]), as well as the "conditions" within the task-conditions-standards framework, for achieving tactical through strategic Army and Department of Defense concepts and visions.[2]

For mission rehearsal exercises (MRE), training centers attempt to depict, within available resources, a training environment that represents as close as possible the anticipated real-world environment to which the unit will deploy. The OPFOR also modifies their weapons and actions to reflect current and expected tactics, techniques, and procedures (TTP). For non-MRE, *Army Regulation 350-1, Army Training & Leader Development*, establishes the decisive action training environment (DATE) as the basis for training standardization,[3] which uses real-world intelligence data and information for creating OE conditions, OPFOR weapons, and TTP to challenge the training unit in performing its mission

2014 Quadrennial Defense Review	2014 Army Operating Concept	Threats / Future OE	Training Environments
1. Provide a global stabilizing presence. 2. Combat terrorism. 3. Counter WMD. 4. Respond to crisis/ conduct limited contingency ops. 6. Conduct military engage & security cooperation. 7. Conduct stability and counterinsurgency ops. 8. Conduct humanitarian assistance and disaster response.	1. Engage regionally. 2. Respond globally. 3. Develop situational understanding. 4. Conduct joint combined arms ops. 5. Sustain high tempo ops. 6. Establish and maintain security 7. Consolidate gains. 8. Respond to/mitigate crises in the homeland.	1. Increased velocity and momentum of human interaction and events. 2. Potential for overmatch. 3. Proliferation of weapons of mass destruction. 4. Spread of advanced cyberspace and counter-space capabilities. 5. Demographics and ops among populations, in cities and complex terrain.	1. Operational Variables (PMESII-PT) 2. Mission Variables (METT-TC) 3. High Value Targets (HVTs) 4. Human Domain 5. ISR Signatures 6. Adversary Capabilities/Effects 7. Adversarial order of battle, doctrine, tactics, techniques, and behavior.



essential tasks. Hence, instead of training conditions that reflect a specific OE, DATE conditions are generic and drive training tasks and objectives. The DATE and MRE exercises use composites of OE representations as well as actual and projected data and information.

To adequately train for and assess unit readiness as trained (T), needs practice (P), or untrained (U), training environments must depict OE "conditions" that are fundamentally complex and dynamic. As training proficiency increases, replicated complexities of the OE and the nature of hybrid threats should also increase. To achieve objective training assessments, the Department of the Army introduced newly developed task evaluation criteria at the 2015 Army Training & Leader Development Conference, which includes OE training conditions needed to achieve various task proficiency levels (T-P-U). Within this construct, training units must establish three defined OE sub-criteria: (1) OE condition, (2) day or night, and (3) the type of threat, of which all are task dependent.

Chapter 1 of the *Army Doctrine Reference Publication (ADRP) 3.0, Unified Land Operations* describes operational variables and threats, and articulates the need for dynamic and complex conditions in paragraph 1-16.[4] Additionally, *Army Regulation 350-2, Operational Environment and Opposing Force Program* describes the need to replicate hybrid threats to act as a "sparring partner" with the ability to be free-thinking and win.[5]

Plan and Prepare					Execute						Assess	
Operational Environment			LTX	Training Environment (L/V/C/G)	% Leaders Present at Training / Authorized	% Present at Training / Authorized	External Eval	Performance Measures	Critical Performance Measures	Leader Performance Measures	Sub-Unit Assessment	Task Assessment
Dynamic & Complex	Night	Hybrid Threat	Yes	Proponent Establishes Training Environment Standards (FTX, STX, CPX, STAFFEX, TEWT, etc)	≥85%	≥80%	Yes	≥90% GO	All	≥90%	T	T
Dynamic or Complex					75-84%			80-89% GO		80-89%		T-
Static and Simple	Day	Regular or Irregular Threat	No		65-74%	75-79%	No	65-79% GO			T-	P
					60-64%	60-74%		51-64% GO	<All	<80%	P	P-
					<60%	<60%		< 50% GO			P-	U

Task Dependent

Rating	OE	Threat	Definition
T	Complex AND Dynamic (night)	Hybrid	Regular and irregular (hybrid) threat with multiple OE variables that change during the task in a cause-and-effect relationship.
T-	Complex OR Dynamic (night)	Hybrid	Regular and irregular (hybrid) with multiple OE variables that don't change, OR regular or irregular threat with minimal OE effects that change during the task in a cause-and-effect relationship.
P-U	Simple and Static (day)	Regular or Irregular	Regular or irregular threat with minimal OE effects that do not change during execution of task.

Due to ongoing budgetary reductions, coupled with congressional sequestration measures, the Army cannot afford to train units as historically envisioned and traditionally achieved. Within the combat training center (CTC) and home-station training (HST) programs, the OE/OPFOR pillar began experiencing significant resource reductions in hybrid threats replication. However, not all aspects of the OE/OPFOR must be replicated to the highest standards for all training events; hence, the Training and Doctrine Command (TRADOC) G-2 established various levels of 'fidelities' for replication. For example, OE replication at CTCs typically requires higher levels of fidelity than exercises at HST events. The Army's Training Summit (III) and the Training General Officer Steering Committee validated three proposed levels of fidelity:

- **High Fidelity:** Condition-setting training environment capabilities and resources needed to replicate most complexities of the OE, present realistic signatures and effects to stimulate all combined arms decisive actions and joint, interagency, intergovernmental, and multinational (JIIM) enablers, and produce "ill-structured problems" for leader development – within the context of achieving all multi-echelon unit training tasks and objectives.
- **Medium Fidelity:** Reduced condition-setting training environment capabilities and resources needed to replicate the majority of OE complexities to stimulate key combined arms decisive actions and JIIM enablers, and present partial signatures and effects needed to stimulate primary multi-echelon tasks and training objectives.
- **Low Fidelity:** The minimal requirements and resources needed to replicate OE conditions that drive single echelon collective training tasks and objectives.

To assist units in replicating OE complexities for training, the OE Enterprise developed numerous innovative and adaptive tools and methods in support of HST and the CTC program. Within TRADOC G-2, and in full collaboration with the TRADOC Combined Arms Center and other partners, the OE Training Support Center/Training Brain Operations Center (TBOC) is TRADOC's point of delivery for OE training conditions, which now also includes the TRADOC Project Office (TPO) for OE/OPFOR requirements.

The OE Training Support Center/TBOC replicates the complexities of the OE through the innovative development and use of tools that leverage real world data, information, and knowledge to enable continuous training, education, and leader development. These tools and techniques not only add depth and complexity to training, but also enhance the Army's ability to rapidly deliver it in pioneering ways at a fraction of the cost.

INNOVATION	CAPABILITY DESCRIPTION
The Training Brain Repository - Exercise Design Tool (TBR-EDT)	Enables commanders and staffs to become better training managers and exercise designers. This web-based tool provides access to a growing repository of previously developed training products and scenarios for reuse, along with authoritative data sources to create new products. Next steps for the tool include integration of an EDT capability into the Joint Staff J7 architecture, development of control tools to execute the training plan during the actual conduct of the exercise, and expanded data exchanges with mission command and simulation systems and architectures.
Information Operations Network (ION)	A HST capability under development that adds realism and complexity to exercises by replicating the social media. Content from Twitter, websites, blogs, Facebook, Instagram, and YouTube that is in context with specific exercises, will be emulated for the training audience. Exercise designers and trainers access the ION cloud via the web, where it can also be tailored and reused for subsequent exercises. The ION data manager tool allows content to become available to training audiences at the appropriate time as content is linked to exercise storylines and threads.
Network Effects Emulation System (NE2S)	Contributes to home station training of cyberspace operations, assisting staffs to plan, coordinate and integrate these operations into exercises. NE2S emulates and replicates environmental effects on both individual machines and the network itself. The NE2S emulates actions from adversaries and friendly-force insiders, as well as actions to deny, degrade, or disrupt command and control of systems or networks. The OE Training Support Center/TBOC deploys the NE2S on the unit network and manages it via a master control station in the exercise control cell.
Advanced Network Analysis and Targeting (ANAT)	Training simplifies analysis by enabling analysts to quickly find key nodes within a complex human network. By employing the Organizational Risk Analyzer (ORA) software tool and using the ANAT methodology, analysts are able to hone in on social networks formed by "people" nodes linked through resources, communications, or events. Analysts can apply social network analysis techniques using ORA to rapidly identify and visualize people with special characteristics that, if targeted, will affect the network based on the commander's intent.
System Integration, Modeling and Simulation	Visualizations and gaming products that are compliant with Army Learning Model by replicating aspects of the OE via customization of gaming technology to fit a range of virtual, constructive, and gaming challenges. The visualizations and virtual practical exercises use real-world data to provide student-centric blended learning. Visualizations present complex information in a 3-D visual medium that is much more efficient than text or image-based media, while micro-simulations efficiently train the "walk" phase of the Army's "crawl-walk-run" training paradigm.
Athena	An effects model (PMESII-PT) that assists commanders in understanding, visualizing and conducting course of action analyses of complex OEs by anticipating the likely mid-term consequences of actions, both planned and unplanned. Athena runs in a stand-alone mode on a laptop, but will likely migrate to the OE cloud. Enhancements to Athena that would enhance its usability and applicability include data exchange with mission command programs of record to facilitate course of action planning, and improvements to the user interface to increase ease of use by non-experts.

The TRADOC G-2's TPO oversees responsibilities for OE/OPFOR requirements in support of training, education, and leader development. The TPO executes requirements and integration tasks within the Joint Capabilities Integration Development System for OE/OPFOR specific TADSS, but does not manage the actual products/systems, which is completed via an assigned TRADOC Capability Manager. Currently, the TPO hosts an Army-wide integrated capability development team, which works across two lines of effort: (1) integration of government and commercial off the shelf capabilities, and (2) development of long-term programs of record via eight integrated process teams. The following are ongoing TPO initiatives:

INNOVATION	CAPABILITY DESCRIPTION
Virtual OPFOR Academy	The OPFOR Academy provides a virtual, cloud-based, interactive, multimedia, and password-enabled learning experience for OPFOR counter-tasks. It will describe the tasks, conditions, and standards associated with each of the TC 7-101 listed OPFOR counter-tasks and present such within the Combined Arms Training Strategy.[6] It will also provide multimedia presentation to expose users to specific descriptions in how to execute OPFOR tasks at HST, and allow to experience such in various preferred methods, including video, simulations, and constructive representations.
Global Positioning System (GPS) & Satellite Communication (SATCOM)	An effort between TRADOC G-2 and the Space and Missile Defense Command G-31 to define, develop, and integrate OPFOR required capabilities needed to replicate threat denial effects for GPS and SATCOM systems. As an IPT within the established integrated capability development team, this effort will explore how to create conditions that will stimulate space oriented training objectives by denying or degrading access to such, and expose training units to recognizable effects in order to implement consequent management and counter-TTP measures.
World Class Cyber OPFOR (WCCO)	The WCCO provides CTCs the required high fidelity and truly competitive OPFOR within the cyberspace domain using actual cyber-warriors who employ real hacking tools to gain access and exploit training unit networks. This professional cyber OPFOR, formed as the 2nd Battalion, 1st Information Command, operates under the supervision of the Army's Cyber Command, and as an extension to the OPFOR within the CTC program.
Cyber Environment Replication (CER)	The CER is a TRADOC G-2 initiative, in collaboration with the Joint National Training Capability (JNTC) and the Joint Improvised Explosive Devices Defeat Organization, to replicate the worldwide network, its cyber vulnerabilities, social media influences, and a means for OPFOR insurgencies to command and control. It provides CTCs a means to replicate competitive information operations via open sources, and create conditions of offensive and defensive cyber operations.
Man-Portable Aircraft Survivability Trainer (MAST) Independent	The MAST is an established program of record (POR) developed in partnership with the United States Army Aviation Center of Excellence and the JNTC, to replicate threat MANPADS. The MAST produces high-fidelity multi-spectral infrared signatures that stimulate both Army and Air Force aircraft Common Missile Warning Systems alerting pilots of threat engagements for countermeasures. It also provides the visual signature of a missile launch, multiple integrated laser engagement system casualty assessment, and video feedback to draw lessons learned.
Commercially Compatible Cellular Network System (IC3NS)	An established system at the national and joint readiness training centers that replicates the modern cellular network system as a means to emphasize complexities within the "information" variables, as well as provide the OPFOR a commercially sustained command and control communications system. A capability production document for this TRADOC and JNTC effort is currently in general officer review at the Department of the Army for consideration of such as an Army POR that will upgrade is technology to 4G and provides sustainment funds.

Accounting for each of the initiatives previously listed, and aligning them with the required levels of fidelity at the CTCs (high) and HST (medium-low), the diagram adjacent illustrates an innovative approach to providing the Army affordable, effective, and efficient OE replication solutions.

Gap	Solution	High	Med	Low
CTC Cyber Intrusion/Attacks	***WCCO** - World Class Cyber OPFOR*	✓		
HST Cyber Attack Effects	***NE2S** - Network Effects Emulation System*		✓	
Competitive Internet	***CER** - Cyber Environment Replication*	✓		
Social Media	***ION** - Information Operations Network*		✓	✓
OPFOR Training	***VOA** - Virtual OPFOR Academy*		✓	✓
Degraded Space	***GPS/SATCOM** – Space & Missile Defense*	✓	✓	

The depiction of a complex world as conditions for unit training is truly complex. As our nation continues to have greater expectation of its Army, within a world that is consistently more convoluted and unstable, replicating the various equities of operational variables within training exercises is critical in preparing deploying forces. Developing innovative means to promote such conditions must be a priority if we are to continue to "train the way we fight" and factually "test and evaluate" our go-to-war capabilities. The TRADOC G-2, as the Army's responsible official for the OE and OPFOR program, continues to spearhead this challenge, and must maintain its innovative efforts in support of the training, education, and leader development communities.

[1]U.S. Department of the Army, Hybrid Threat, TC 7-100. (Washington D.C.: U.S. Department of the Army, 2010), 3-26.
[2]U.S. Department of the Army, Unified Land Operations, ADP 3-0. (Washington D.C.: U.S. Department of the Army, 2011),
[3]U.S. Department of the Army, Army Training and Leader Development, AR 350-1. (Washington D.C.: U.S. Department of the Army, 2014), 8.
[4]U.S. Department of the Army, Unified Land Operations ADRP 3-0. (Washington D.C.: U.S. Department of the Army, 2012), 1-2 and 1-3.
[5]U.S. Department of the Army, Operational Environment and Opposing Force Program AR 350-2. (Washington D.C.: U.S. Department of the Army, 2015).
[6]U.S. Department of the Army, Exercise Design TC 7-101. (Washington D.C.: U.S. Department of the Army, 2010), Appendix B.

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Acronym Reference

ADRP - Army Doctrine Reference Publication
CTC - combat training center
DATE - decisive action training environment
HST - home-station training
JIIM - joint, interagency, intergovernmental, and multinational
JMRC - Joint Multinational Readiness Center
MANPADS - man-portable air defense systems
MAST - man-portable aircraft survivability trainer
OE - operational environment
OPFOR - opposing force
P - practiced
PMESII-PT - political, military, economic, social, information, infrastructure, physical terrain, and time
T - trained
TADSS - training aids, devices, systems, and simulations
TBOC - Training Brain Operations Center
TPO - TRADOC Project Office
T-P-U - task proficiency levels
TRADOC - Training and Doctrine Command
TTP - tactics, techniques, and procedures
U - untrained

Operation Atlantic Resolve

Support from The First Rotational Aviation Task Force

By MAJ Robert Crouse

Considering the theme of "Army Aviation in Unified Land Operations" for this issue of *Aviation Digest*, the purpose of this article is twofold: to inform the readership of Army Aviation's first rotational unit's support to Operation Atlantic Resolve (OAR) and to highlight the aviation task force's (TF) participation in multinational operations with respect to *Army Doctrine Reference Publication (ADRP) 3-0, Unified Land Operations.*[1]

Army Aviation operations within Europe are not new as units such as 12th Combat Aviation Brigade (CAB) have been building relationships with allied and partner forces and developing systems and procedures for operating within Europe for several years. Mindful of this fact, the current and future rotational aviation units executing OAR can rely on the 12th CAB's institutional knowledge. What is newsworthy and strategically consequential with respect to Army Aviation operations in Europe is the deployment of a Continental United States (CONUS) based aviation TF to support United States Army Europe (USAREUR).

Operation Atlantic Resolve is a demonstration of continued commitment, by the United States, to the collective security of the North Atlantic Treaty Organization (NATO) and to enduring peace and stability in the region in light of Russia's illegal actions in Ukraine. Since April of 2014, USAREUR has conducted multinational training and security cooperation activities with allies and partners in Eastern Europe to reinforce the U.S. commitment to our allies and deter Russia from regional hegemony. In light of Army restructuring initiatives over the last three years, the U.S. Army forces supporting OAR include both USAREUR-assigned units and regionally aligned CONUS units. For example, the 4th Infantry Division (ID) Headquarters provides a continuous mission command element (MCE) to oversee OAR operations occurring in Estonia, Latvia, Lithuania, Poland, Romania, and Bulgaria. Additionally, the regionally aligned 1-3rd Armored Brigade Combat Team (ABCT) provides a BCT-sized force on a rotational basis to support OAR. Army Aviation's contribution to OAR follows a similar model to that of 1-3rd ABCT and the 4th ID MCE. While USAREUR could rely on the robust assets of 12th CAB to support multiple lines of operation in recent years, the Aviation Restructuring Initiative requires CONUS-based aviation units to provide critical aviation capabilities to OAR.

The first rotational aviation TF deployed to Europe in support of OAR in the spring of 2015. The 3rd CAB's 4-3rd Aviation Regiment provides TF Brawler's mission command, two UH-60M assault companies, an aviation unit maintenance (AVUM) company, and a forward support company (FSC). In addition to these assets, 2-3rd Aviation Regiment (General Support Aviation Battalion) augments TF Brawler with six medical evacuation (MEDEVAC) HH-60M aircraft and air traffic services (ATS) assets. The U.S. Air Force also provides six staff weather officers (SWO). Task Force Brawler is arrayed in three locations in Europe - Lielvarde Air Base, Latvia; Mihail Kogalniceanu Airfield, Romania; and Illesheim Army Airfield, Germany. Each location in Latvia and Romania maintains five utility aircraft and crews, a plans section, an aircraft maintenance section, and an FSC section for forward arming and refueling point (FARP) and sustainment capability. Illesheim is home to the bulk of the headquarters company, the MEDEVAC detachment, aviation unit maintenance, the ATS tactical terminal control system Soldiers, and the FSC. The ATS company also employs it's air traffic navigation, integration and coordination system at Lielvarde Air Base to provide a fixed-base precision approach radar capability.

Task Force Brawler maintains operational control under 12th CAB and provides direct support to the 4th ID MCE while also providing general support aviation to USAREUR. While the command relationships may appear untidy, they function effectively. Serving as the division headquarters between USAREUR and the subordinate brigades, 4th ID MCE oversees operations throughout the OAR region and tasks non-OAR related aviation missions through 12th CAB to TF Brawler at Illesheim.

The TF provides a wide variety of missions requiring aviation support. Task Force Brawler has supported joint and multinational training exercises that have included air assaults,

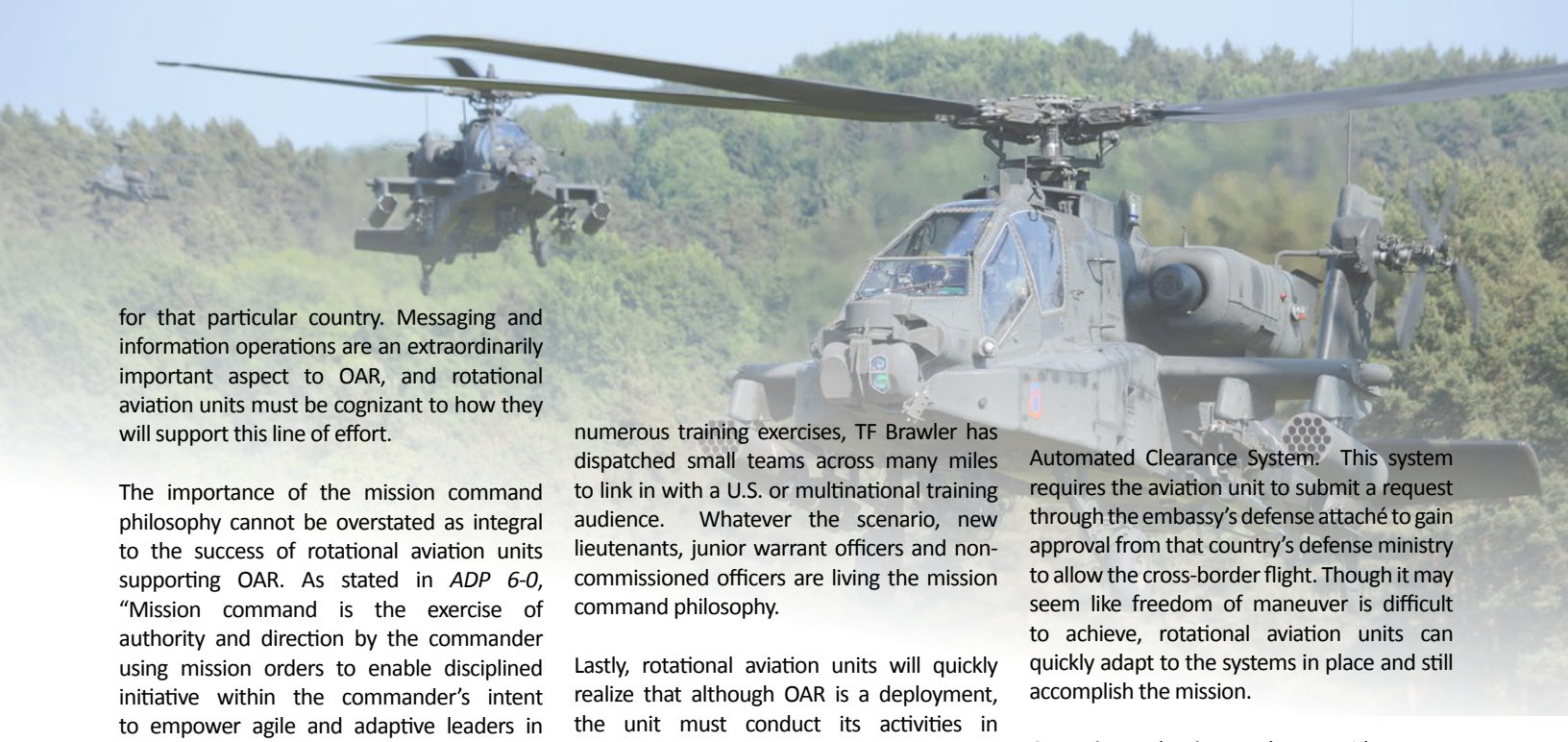
air movements, very important person movements, para drops, helocasts, command post exercises, MEDEVAC (both real-world and training), weapons ranges, and airshow static displays. Most advantageous to the TF and to our unified action partners is the ability to train interoperability. As defined by *Joint Publication 3-0, Joint Operations*, interoperability is "the ability to operate in synergy in the execution of assigned tasks."[2] On a number of occasions, TF Brawler has demonstrated to our NATO allies that Army Aviation elements combined with other U.S. and allied assets, achieve a total effect that is greater than the sum of the individual components. In April, TF Brawler UH-60s and Romanian rotary wing aircraft provided air assault training to the 2-2nd Stryker Cavalry Regiment, the United Kingdom, and Romanian ground forces. The integrated team of U.S. and allied air and ground assets trained interoperability and led to a better understanding of air-ground operations for ground units who do not have the assets to train air assault tasks. Similarly, TF Brawler units in Latvia conducted air assault, sling load, and para drop missions with 1-503rd Infantry Regiment, 173rd BCT, and Lithuanian Land Forces in the Pabrade Training Area in Lithuania. In this training event, the Brawler UH-60s assisted the Lithuanian forces with aircraft familiarization, incorporating assault aviation into their operations, and demonstrating the effectiveness of rotary wing assets in the ground commander's tactical plan.

While TF Brawler's aviation and support assets provide critical capabilities to all of the training exercises throughout Europe, *ADRP 3-0* emphasizes that "all nations bring value to the operation."[3] This concept was evident when TF Brawler conducted five simultaneous training exercises supporting normal operations in Germany and Romania; exercises in Latvia, Poland, and Lithuania; a Kosovo rotation at the Joint Multinational Readiness Center (JMRC); a Kosovo rotation and MEDEVAC training for the International Security Training Center in Pfullendorf, Germany; and support to NATO's Operation Noble Jump. While the five Brawler aircraft were critical to providing aerial interdiction and air assault capabilities to Operation Noble Jump, the allies participating in the event also provided essential sustainment and protection measures to the Brawler contingent. The 1st German-Netherlands Corps, who served as mission command over Operation Noble Jump, provided essential FARP, supply, and other sustainment services to the Brawler detachment. As the only United States Department of Defense assets participating in Operation Noble Jump, the Brawler team quickly built trust and confidence with the other NATO participants to execute a successful operation.

Task Force Brawler also gained proficiency in multinational operations through training opportunities afforded by the JMRC. In May, TF Brawler deployed to JMRC with an aviation TF comprised of aircraft from Illesheim and other assets from across Europe including AH-64s and CH-47s from 12th CAB, an AS532 Cougar from Bulgaria, a command post node team from 2nd Signal Brigade, and SWO support from Ramstein AB. While at Hohenfels, TF Brawler supported Combined Resolve IV to train participants in a multinational and integrated environment and train U.S. Army rotational forces to Europe to be more flexible, agile, and better able to operate alongside allies and partners in the region. Combined Resolve IV featured more than 4,700 participants from ten NATO Allies including Albania, Bulgaria, Croatia, the Czech Republic, Denmark, Italy, Latvia, Romania, Slovenia, the United States, and three partner nations of Moldova, Montenegro and Serbia.

In nearly every month of the nine-month deployment, TF Brawler had variously tailored aviation packages training at JMRC in multinational operations. Prior to participating in Combined Resolve IV and armed with a refresher on *FM 3-16*, *The Army in Multinational Operations*, Task Force Brawler's S-3 planners were more prepared to face the ambiguities of operating with multinational partners; however, many lessons learned and best practices still surfaced—a testament to the value of actually practicing and training with multinational partners. Within TF Brawler, everyone quickly learned the value of the written order when communicating. The 23 members of the Bulgarian aviation unit attached to TF Brawler had varying proficiency in English—mostly functional, not necessarily fluent. In this scenario, written orders helped to eliminate confusion or misunderstanding that can occur in oral communication. To mitigate language issues and strengthen the unity of command, the Bulgarians provided four liaison officers to support operations in the TF Brawler tactical operations center demonstrating their resolve to become a team with the Brawler Mission Command Element. Aside from language, cultural sensitivity and understanding is also important in a multinational training environment.

Strategic messaging to the general public is of particular importance to the OAR mission and implicitly important to all subordinate units participating in OAR. At any given OAR training exercise, troop movement, or key leader seminar, multiple media outlets are present to assist USAREUR inform its allies and partners that the U.S. Army is committed to a Strong Europe. However, messaging efforts can be hard to quantify, and public affairs teams are only assigned down to the brigade level. For the rotational aviation unit, efforts to control public messages will necessarily need to come from within the TF. Prior to deploying, each Brawler company sent one Soldier to a unit public affairs representative (UPAR) class. Having a UPAR in each company assists the company commander in capturing training events through pictures and narrative, and create storyboards for the chain of command to distribute to appropriate agencies. Messaging also reaches beyond social media for the rotational aviation TF. Staff members must work together to provide the subordinate units with the most updated talking points as messages frequently change as commanders continuously assess the strategic situation. The TF Brawler aircrews fly with a talking points smart-sheet so if they conduct a precautionary landing somewhere, they can adhere to the Strong Europe message. Similarly, when supporting airshows and static displays, the task force coordinates with 12th CAB and Department of the Army Military Operations for Aviation to determine what talking points are apropos



for that particular country. Messaging and information operations are an extraordinarily important aspect to OAR, and rotational aviation units must be cognizant to how they will support this line of effort.

The importance of the mission command philosophy cannot be overstated as integral to the success of rotational aviation units supporting OAR. As stated in *ADP 6-0*, "Mission command is the exercise of authority and direction by the commander using mission orders to enable disciplined initiative within the commander's intent to empower agile and adaptive leaders in the conduct of unified land operations."[4] As TF Brawler assets are dispersed at three different locations, commanders must entrust their subordinate leaders to execute operations in a decentralized manner including risk assessment analysis. To assist with risk mitigation in accordance with Army Regulation 95-1 mission approval process and still effectively conduct aviation operations, TF Brawler placed a field grade officer in each of its three locations to provide risk assessment approval for aircrews, as each major effectively serves as XO and S-3 and can provide moderate level of risk approval.[5] Aside from the mission approval process, OAR provides ample opportunity for units to exercise distributed mission command. On numerous training exercises, TF Brawler has dispatched small teams across many miles to link in with a U.S. or multinational training audience. Whatever the scenario, new lieutenants, junior warrant officers and non-commissioned officers are living the mission command philosophy.

Lastly, rotational aviation units will quickly realize that although OAR is a deployment, the unit must conduct its activities in accordance within the rules and diplomatic agreements put forward by the host nation. Established quiet-hour schedules, weekend flight restrictions, host nation holidays, and no-overflight areas may seem like hindrances, but compliance with these rules demonstrates respect for the sovereignty of the host nation. With advanced notice, the rotational aviation unit can submit a waiver request to fly during restricted times and if operational necessity warrants, the host nation will typically grant the waiver. Similarly, the rotational aviation unit must be proficient in a number of different planning factors to enable freedom of movement across borders. Pilots and operations section planners need to be familiar with the Aircraft and Personnel Automated Clearance System. This system requires the aviation unit to submit a request through the embassy's defense attaché to gain approval from that country's defense ministry to allow the cross-border flight. Though it may seem like freedom of maneuver is difficult to achieve, rotational aviation units can quickly adapt to the systems in place and still accomplish the mission.

Operation Atlantic Resolve provides Army Aviation a host of training opportunities in multinational and joint operating environments. Commanders will find that OAR is also conducive to remaining very healthy with respect to their mission essential task list; nearly every OAR mission exercises individual and collective tasks. Additionally, the variety of missions, their duration, and assortment of supported ground units keeps the TF Brawler Soldiers engaged. Rotational aviation units supporting OAR will undoubtedly discover a sense of satisfaction in supporting a strategically important mission that simultaneously develops their formations into highly trained, multinational team players.

1. U.S. Department of the Army, *Unified Land Operations, ADP 3-0* (Washington D.C.: U.S. Department of the Army, May 2012), 1-5.
2. U.S. Department of Defense, *Joint Operations, JP 3-0*, (Chairman of the Joint Chiefs of Staff, Washington D.C., 2013).
3. *ADRP 3-0*, 1-5.
4. U.S. Department of the Army, *Mission Command, ADP 6-0* (Washington D.C.: U.S. Department of the Army, May 2012), 1.
5. U.S. Department of the Army, Flight Regulations, AR 95-1 (Washington D.C.: U.S. Department of the Army, March 2014), 9.

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Acronym Reference

ABCT - armored brigade combat team	**MCE** - mission command element
ATS - air traffic services	**MEDEVAC** - medical evacuation
AVUM - aviation unit maintenance	**NATO** - North Atlantic Treaty Organization
CAB - combat aviation brigade	**OAR** - Operation Atlantic Resolve
CONUS - Continental United States	**SWO** - staff weather officer
FARP - forward arming and refueling point	**TF** - task force
FSC - forward support company	**UPAR** - unit public affairs representative
ID - infantry division	**USAREUR** - United States Army Europe
JMRC - Joint Multinational Readiness Center	**XO** - executive officer

COMBAT TRAINING CENTER CORNER

Aviation Digest - Archived Article July-August, 1991

Aviation Deep Battle Operations at the National Training Center

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TRENDS SUGGEST THERE are three keys to successful aviation deep battle operations at the National Training Center (NTC). They are reconnaissance, fire support, and mass. Whether on the offense or defense, these three principles must be followed to execute successful deep battle operations.

Don't become preoccupied with the definition of deep battle operations. Current land management restrictions and Opposing Forces (OPFOR) scenario development usually place deep battle operations 10-20 kilometers forward of the forward line of own troops (FLOT). With the OPFOR moving at 20 kilometers per hour, the window of opportunity for the aviation task force to execute deep battle operations may be small.

Reconnaissance

The first key to successful deep battle operations is reconnaissance. Reconnaissance is divided into two phases–the counterreconnaissance phase and the main battle phase.

Counterreconnaissance Phase. During the counterreconnaissance phase the aviation task force must help the brigade combat team (BCT) identify and destroy all OPFOR reconnaissance. It should not be bypassed, reported, or observed. It should be de-

stroyed. When allowed to operate safely in sector, OPFOR reconnaissance will cause considerable problems during the main battle phase. Given time, OPFOR reconnaissance will identify friendly positions and report locations and unit strengths in the task force/brigade sector. Their presence also will result in unsecured flight routes, holding areas, and aviation battle positions.

An effective technique used to destroy OPFOR reconnaissance is for the BCT to integrate the aviation task force in a thorough zone counterreconnaissance plan. This plan is conducted like a search and rescue mission. First, you divide the zone and search every square meter as if you are searching for a downed pilot. Next, you insist that the BCT assign ground units to particular zones. Finally, you direct the aviation task force scouts to coordinate with the ground units to attack OPFOR reconnaissance found in a particular zone. This is a time-consuming event. One or two OH-58 Kiowas can't cover 300-400 square kilometers thoroughly.

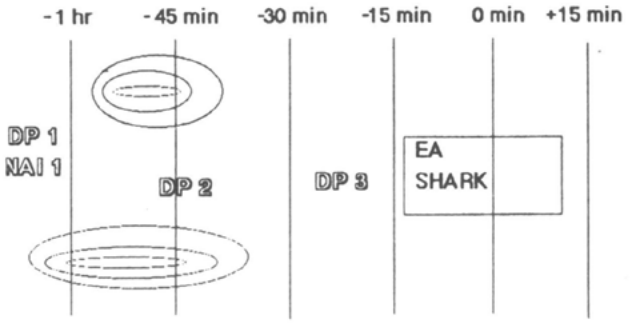
The counterreconnaissance fight is a major task force mission. Planning and home station training are essential to conduct this operation successfully. The OPFOR employ reconnaissance according to doctrine. Therefore, you must use the intelligence preparation of the battlefield (IPB) process to identify when and where they will be in sector. Remember, the focus of the counter reconnaissance battle is to kill OPFOR reconnaissance, not just report. And it's time-consuming.

Main Battle Phase. Reconnaissance during the main battle focuses on finding the enemy. You should start with a good IPB, then develop named areas of interest (NAIs) that track the enemy to your engagement areas. Some NAIs will be out of the reach and range of the aviation task force. In these cases you should request, through the brigade, that the division watch these NAIs and report priority intelligence requirements. When the enemy is approximately 1 hour from the closest NAI that can be organically observed, place your scouts to intercept them. You must ensure there is a task force plan for rotating scout assets. The S2, S3, and company commanders should brief this rotation plan at the task force rehearsal.

The OH-58C Kiowa is not always the best scout platform. However, dismounted aerial observers

A/1-12 ATTACK SCOUT/3-45 ARMOR	A/1-12 ATTACK A/3-45 ARMOR	A/1-12 ATTACK A/3-45 ARMOR
B/1-12 ATTACK A/1-55 MECHANIZED	B/1-12 ATTACK A/1-55 MECHANIZED	B/1-12 ATTACK A/1-55 MECHANIZED
C/1-12 ATTACK A/1-55 MECHANIZED	C/1-12 ATTACK C/1-55 MECHANIZED	C/1-12 ATTACK C/1-55 MECHANIZED

COUNTERRECONNAISSANCE PLAN



- ☐ Decision Point 1: OH-58 scouts move into observation post positions.
- ☐ Decision Point 2 : Fire support officer notifies brigade that close air support is required for engagement area SHARK.
- ☐ Decision Point 3 : A Company and B Company move attack helicopters to battle positions.

DECISION MATRIX

should compensate for this deficiency. A dismounted aerial observer with a secure AN/PRC-77 Frequency Modulation Field Radio and binoculars usually provides more accurate information than several flying scouts observing the same NAI. In addition, a commander may choose to employ an AH-1 Cobra or AH-64 Apache to assist in the reconnaissance phase. Remember, an execution matrix should always be event driven instead of time driven. The OPFOR don't always attack at 0600 hours.

The aviation task force S2 develops and executes the collection and reconnaissance plan. All spot reports should be channeled through the aviation task force S2. Clear and concise spot reports are essential for the S2 to develop an accurate picture of what is happening. The reconnaissance/collection effort must be coordinated by the S2. For the attack battalion this may mean consolidating most of the OH-58C Kiowa scout assets into one organization to assist the collection effort. If OH-58D Kiowas are available, the S3 must decide when these assets will be most effective, either in the collection/reconnaissance mode or for assisting the fire support plan or both.

The key to reconnaissance in the main battle phase is to locate and track the enemy, which allows the task force commander to execute his engagement areas as planned. Remember, the window of opportunity may be very small; so accurate reconnaissance is essential.

Fire Support

The second key to successful deep battle operations for aviation is thorough fire support planning. It is very difficult to execute a fire support plan. The ability of the enemy to maneuver in open terrain makes them difficult to target in specific engagement areas. The IPB process should yield definite avenues of approach and mobility corridors to execute the engagement areas and the fire support plan. The aviation task force must insist that the BCT position sufficient artillery forward for deep battle operations at the maximum range of the zone of operation.

Planning. The fire support plan should be rehearsed on a sand table. When time is available, a flying rehearsal is conducted with the fire support officer (FSO) and supporting fire direction center over fire control nets dedicated for the operation. If OH-58C Kiowas execute the fire support plan, then target groups should be used instead of individual targets. Target groups are easier to identify in the desert than individual targets. If possible, target reference points should be emplaced to help crews identify the target.

Joint air attack team (JAAT) operations should be planned for specific engagement areas. Don't rely on close air support (CAS) windows. OPFOR may not be in the engagement areas when the CAS is in the windows. The BCT should allocate sorties to the aviation task force, then develop decision points ensuring that CAS is on station at the initial point (IP) and ready for use.

The air liaison officer should be included at the task force rehearsals and briefings. JAAT must be included as part of the plan and rehearsal. And a forward air controller should be there for the rehearsals. At the NTC, it usually takes about 30 to 45 minutes to get CAS on station from a cold start to the IP. You should plan your decision points to get CAS on station to execute JAAT where and when you want.

For copperhead engagements, you should confirm who will do the designating and from what position. To avoid angle-T problems, you must know the exact location of the battery that will fire the missions. A flying rehearsal to exercise digital message device traffic with the fire direction control center will eliminate surprises at the time of execution. If OH-58D Kiowas are not available, combat observation lasing teams may be brought forward to facilitate copperhead engagements. These teams should be included in your rehearsals.

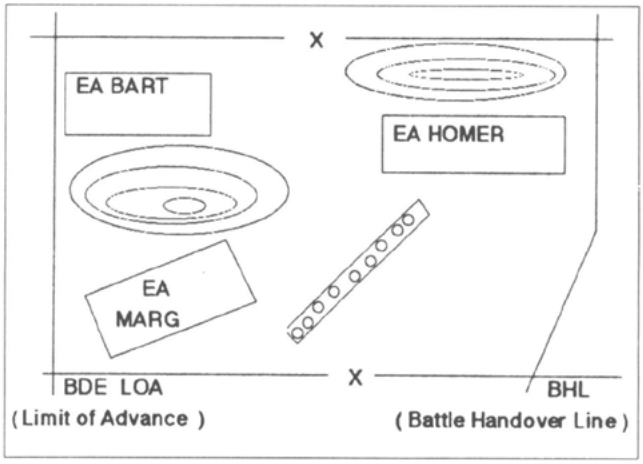
Execution. Fire support plan execution is probably the most difficult part to synchronize in deep battle operations. Ideally, the task force will have attack helicopters with CAS and artillery, simultaneously. Deep battle operations, like a symphony orchestra, need a conductor to be effective. Deep battle operations should be orchestrated at the task force level. The S2, S3, and FSO coordinate the right players into the right positions at the right time. Each company has a battle captain/crew and backups to execute the fire support plan and the JAAT.

Finally, most brigade commanders place engineering emphasis on preparing obstacles and positions for ground forces in close battle operations. If the terrain supports such activity, it may be worth while to place obstacles in the deep battle area to help direct enemy forces to engagement areas. For every vehicle killed in deep battle operations, its one less for the ground task forces to kill in close battle operations.

Mass

The final key to successful deep battle operations is mass, which is very difficult for a cavalry squadron participating at the NTC. Six to eight AH-1 Cobras don't provide sufficient mass to attrite seriously a Motorized Rifle Regiment or Samaran Mechanized Brigade in the attack or a Samaran Tank Battalion in the role of mobile reserve. By using battlefield calculus, the brigade commander gives a cavalry squadron an attack mission that the squadron can realistically accomplish.

Remember, the window of opportunity to attack may be small for an attack battalion. The center of gravity for the OPFOR is momentum. The aviation task force must start attacking enemy formations at the maximum range of the brigade zone of operations. Don't let the OPFOR gather momentum. Battle positions and enemy time in an engagement area are all variables and will drive the type of employment decision (continuous, phased, or mass destruction). A particular battle position may offer 2-3 engagements. Successful units plan alternative and subsequent battle positions that allow for maneuver, survivability, and continuous attrition.



ENGAGEMENT AREAS IN DEEP OPERATIONS

Timing. Timing is critical; timing is everything. A premature launch of attack helicopters to battle positions is a serious problem. The proper massing of attack assets at the right time and place cannot be overstated, and that brings us back to reconnaissance.

Conclusion

I deliberately limited my discussion about techniques. I did, however, mention a few like using dismounted aerial observers and developing a search-and rescue-type counterreconnaissance plan. There are many good ideas out there, but all good techniques require practice and rehearsals and home station training. The OPFOR thrive on speed, momentum, and mass. The deep battle operation is an excellent opportunity for the aviation task force to strip away the enemy's eyes, disrupt their momentum, disorganize their command and control, and enable the ground task force(s) to finish them off in bite-size pieces.

For more information contact the Eagle Team at DSN 470-4420 or write: Commander, Operations Group, ATTN: Eagle Team, National Training Center, Fort Irwin, CA 92310

TURNING PAGES

~ book reviews of interest to the aviation professional

The Wright Brothers

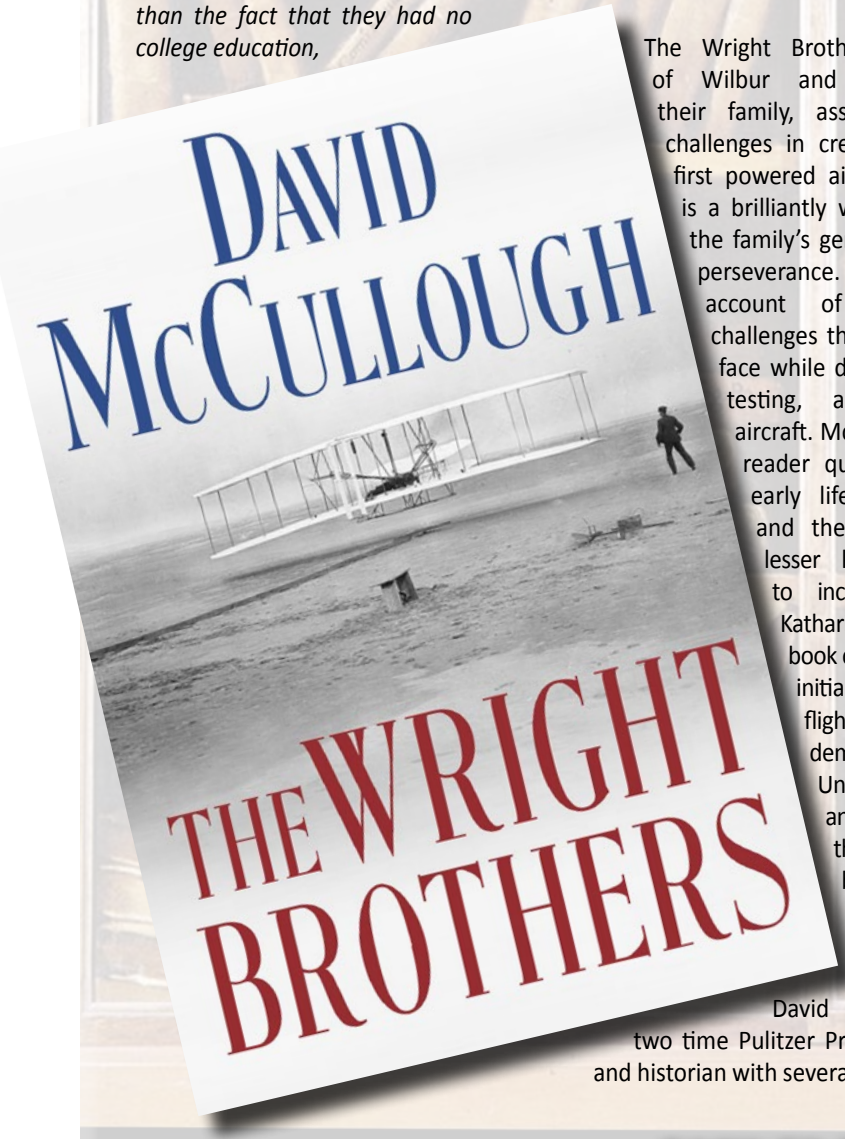
By David McCullough. Simon and Schuster, New York, New York - May 2015. Hardcover, Unabridged Audio, and eBook formats available.

A book review by LTC Jacob A. Mong

Academia, scientists and prominent men said it could not be done. The Washington Post stated "it is a fact, that man can't fly" and published comical poems mocking such efforts. Several respected and well established engineers, scientists, enthusiasts, and pioneers previously attempted and failed to build anything better than a glider, much less a powered heavier than air machine. However, as David McCullough writes:

In no way did this discourage or deter Wilbur and Orville Wright, any more than the fact that they had no college education, no formal technical training, no experience working with anyone other than themselves, no friends in high places, no financial backers, no government subsidies, and little money of their own. Or the entirely real possibility that at some point, like Otto Lillienthal, they could be killed.

On December 17, 1903, in a cold North Carolina wind, the Wright brothers against all odds, flew. As a result they ushered in a new age of technology, travel, warfare, and in the process changed the world forever.



The Wright Brothers is a history of Wilbur and Orville Wright, their family, associates and the challenges in creating the world's first powered aircraft. This book is a brilliantly written account of the family's genius, courage, and perseverance. It is a gripping account of the daunting challenges the Wright Brothers face while designing, building, testing, and flying their aircraft. McCullough takes the reader quickly from family early life and influences, and the contributions of lesser known characters, to include their sister Katharine Wright. The book covers the brother's initial research, their first flights, and subsequent demonstrations in the United States, France, and Germany, and the turmoil created by international fame.

The author, David McCullough, is a two time Pulitzer Prize winning writer and historian with several titles to his credit including Truman, John Adams, and 1776. Mr. McCullough is also the recipient of the Presidential Medal of Freedom (the highest honor the U.S. Government can bestow on a civilian), and several other awards and honorary degrees. The Wright Brothers is clearly a continuation of this accomplished author's earlier works.

The Wright Brothers is a meticulously researched work that explores journal writings, newspaper reports, photos, and personal correspondence of the family. McCullough captures the physical demands of living conditions for the brothers in Ohio and North Carolina, technical problems, and the innovative solutions combined with the hard work and true grit that overcame them. The story also details dealing with initial resistance to their achievement, and the subsequent fame, fortune, and legal battles that came with a monumentally important achievement for mankind.

Mr. McCullough focuses primarily on telling the story of the Wright Brothers, while using just enough technical data and detail to accomplish this task. Aeronautical engineers, and test pilots looking for the lift equation, and drag charts will not find them in this book.

The Wright Brothers is an easy to read book that you could share with any member of your family. It is instructive to all who read on the Wright Brother's example in hard work, personal discipline, and sheer humility. This book is a must read for all aviators, military, scholars, and historians and is relevant to several disciplines, not just aviation enthusiasts.

"Diamond Head" is emblematic of Oahu, Hawaii, the unit's place of activation. The red and gold dragon alludes to the Republic of Vietnam where the predecessor organization participated in thirteen campaigns receiving five decorations represented by the star. "Diamond Head: also simulates a delta, a star traditionally identifies a capital city; together they refer to the Saigon and Delta areas and organization's two Valorous Unit Awards. The red delineation and claws represent the two Meritorious Unit Commendations awarded the former organization, the 25th Aviation Battalion. The colors red and gold denote the Republic of Vietnam Cross of Gallantry (with palm) award and red and green represent the Civil Action Medal.

A Gold color metal and enamel device 1 1/8 inches (2.86 cm) in height consisting of a shield blazoned: Azure (Teal Blue), in saltire a lightning flash Or and a wing elevated and displayed Argent. Attached below the shield a Gold scroll doubled and inscribed "LELE MAKOU NO NA PUALI" (We Fly For The Troops) in Black.

Teal blue and yellow are the colors formerly used for Aviation units. The eagle's wing over the lightning flash represents the aviation surveillance and direction over the penetration, speed and fire power of the Division.

The distinctive unit insignia and the coat of arms were originally approved for the 25th Aviation Battalion on 9 September 1963. It was amended to correct the spelling of the motto on 16 October 1963. The insignia was redesignated for the 25th Aviation Regiment with the description and symbolism revised effective 16 May 1988.

25TH COMBAT AVIATION BRIGADE

The 25th Aviation Company activated at Schofield Barracks on 1 February 1957 and was assigned to the 25th Infantry Division. Equipped with light observation fixed wing and helicopters, the company provided general aviation support to the division.

On 12 August 1963, the 25th Aviation Battalion was activated with the 25th Aviation Company reorganized as the battalion's Headquarters and Headquarters Company.

The 25th Aviation Battalion deployed to Vietnam and arrived in-country 30 April 1966. The battalion co-located with the 25th Infantry Division at its basecamp at Cu Chi northwest of Saigon where it supported the division throughout the III Corps Military Region. The 25th Aviation Battalion received credit for participating in 12 campaigns prior to redeploying to Schofield Barracks on 7 December 1970.

As part of the re-organization of the 25th Infantry Division to a light infantry configuration, the 25th Aviation Battalion was briefly inactivated from 16 October 1985 to 16 January 1986. The battalion was re-designated under the Army's Regimental System on 16 May 1988 to the 25th Aviation Regiment.

On 16 November 2005, the 25th Aviation Regiment was reorganized and re-designated as the 25th Combat Aviation Brigade (CAB).

The 25th Combat Aviation Brigade has conducted multiple deployments is support of the Global War on Terror. It deployed to Afghanistan as Task Force Wings from April 2004 to April 2005 and again in January 2012 to January 2013 where it supported the International Security Assistance Force in Regional Command South. The unit deployed from August 2006 to October 2007 in support of Task Force Lightning and again from August 2009 to August 2010 in support of U.S. Division – North and Iraqi Security Forces.

Campaign Participation Credit

Vietnam
Counteroffensive
Counteroffensive, Phase II
Counteroffensive, Phase III
Tet Counteroffensive
Counteroffensive, Phase IV
Counteroffensive, Phase V
Counteroffensive, Phase VI
Tet 69 Counteroffensive
Summer-Fall 1969
Winter-Spring 1970
Sanctuary Counteroffensive
Counteroffensive, Phase VII

Iraq
Iraq Sovereignty Campaign
Iraq National Resolution Campaign

Afghanistan
Afghanistan Consolidation I Campaign
Afghanistan Transition I Campaign

Decorations

Valorous Unit Award for HO BO Woods (Vietnam)
Valorous Unit Award for TAY NINH – HAU NGHIA (Vietnam)
Meritorious Unit Commendation for VIETNAM 1966-1967
Meritorious Unit Commendation for VIETNAM 1968
Meritorious Unit Commendation for AFGHANISTAN 2004-2005
Meritorious Unit Commendation for IRAQ 2006-2007
Meritorious Unit Commendation for IRAQ 2009-2010
Meritorious Unit Commendation for AFGHANISTAN 2012-2013
Republic of Vietnam Cross of Gallantry with Palm for VIETNAM 1966-1968
Republic of Vietnam Cross of Gallantry with Palm for VIETNAM 1968-1970
Republic of Vietnam Civil Action Honor Medal for VIETNAM 1966-1970

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