UNITED STATES ARMY AVIATION

Aviation DIGEST

UNITED STATES ARMY
July - September, 2016

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The Command Corner
Letters to the Editor
Collective Training & Readiness for the Fight
Preparing for JIIM Operations
Leveraging Fort Riley Resources to Excel in Challenging Conditions
Preparing the Force: Evasion & Personnel Recovery Training
An Essential Link - The AVCCC & the Combat Training Centers
Army Aviation Training and the CATS Program
Integrated Collective Training for the CAB
Tough Realistic Training
ARAT: a Quarter Century of Enabling Aircrew Survivability
Army Aviation Tactical Mobility
Counseling Soldiers - Providing Opportunity to Grow
The Expeditionary Mindset: One Commander's Perspective
The Arctic Summit
Start Aviator Training the Old-Fashioned Way
Assessing the ADAM/BAE Cell
Paradigm Shift: Turning an Attack Team into a Scout Team
Turning Pages

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Aviation Digest
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ABOUT THE COVER

Army Aviation units engaged in collective training.

The Command Corner

The Army Aviation Training Strategy (published in January 2016) reminds us that we will fight the way we train. It takes commanders and leaders at every echelon to drive relevant, rigorous, and realistic training to ensure that we train the way we intend to fight—integrated into unified land operations by conducting air-ground operations as the aviation maneuver force of the combined arms team.

Fifteen years of recurring deployments have contributed to the development of many skilled aircrews and aviation Soldiers with considerable experience in team and small-unit counterinsurgency (COIN) operations. Though skilled at team employment, we must prepare for larger formation employment to deter a future conflict, and if deterrence fails, win against a near-peer or peer threat. In fact, our aviation dominance in recent conflicts drives our adversaries to innovate in ways that attempt to exploit our capability gaps. We too must innovate. We must be creative in training to harness and sustain this hard-earned COIN proficiency while regaining the capacity to conduct larger scale operations at company, battalion, and brigade levels in the decisive action training environment and the ambiguous and complex situations we strive to anticipate.

Collective training in air-ground operations is essential to provide the combined arms team the inherent advantages of Army Aviation: mobility, speed, range, flexibility, lethality, precision, and persistent reconnaissance. At the same time, collective training is also key to our survivability strategy, by enabling us to build proficiency in employing the combined and complimentary effects of air and ground maneuver and fires through air-ground operations to present the enemy with multiple dilemmas.

Now and always, leadership matters. If building and sustaining combat readiness is the primary objective of every unit not decisively engaged with the enemy, then crafting and implementing unit training plans that build to collective mastery must be a central concern of leaders at every level. To do this effectively requires leaders that are able to think critically and are competent, agile, and adaptive. As we confront the challenges of our day—emerging threats around the globe, fiscal constraints, and reductions in force structure, to name a few—these leadership qualities become even more vital to ensuring that we are building and sustaining a combat ready force.

Standardized mission essential task lists (METL) for aviation formations help build a shared understanding of unit capabilities across the total force, but because limits on time, troops, training support, and other resources will seldom permit a unit to achieve full and lasting proficiency in every essential task, commanders must still prioritize METL to develop unit training plans that emphasize decisive action capability. As we prepare to fully implement objective training evaluation criteria—"Objective T"—the impact of leader decisions on how to best utilize training resources and leverage the live, virtual, constructive, and gaming training environments becomes even greater.

Our Army's senior leaders know that Aviation is a critical component to the joint combined arms maneuver fight. It is essential to train to this reality now, and it begins with every unit making it a priority. We have the best-trained aviation formations in the world, so refocusing to a decisive action collective proficiency is as critical as it is achievable. It begins with leaders making it a priority. So, let's get at it.

Above the Best!

William K. Gayler
Major General, USA
Commanding

Table of Contents

Pg. 2 — The Command Corner

Pg. 4 — Letters to the Editor

Pg. 5 — Collective Training & Readiness for the Fight

Pg. 8 — Preparing for JIIM Operations

Pg. 10 — Leveraging Fort Riley Resources to Excel in Challenging Conditions

Pg. 13 — Preparing the Force: Evasion and Personnel Recovery Training at Home Station

Pg. 15 — An Essential Link: The Aviation Captains Career Course and the Combat Training Centers

Pg. 17 — Army Aviation Training & the Combined Arms Training Strategy Program

Pg. 21 — Integrated Collective Training for the CAB

Pg. 23 — Tough, Realistic Training

Pg. 24 — ARAT: A Quarter Century of Enabling Aircrew Survivability

Pg. 26 — Army Aviation Tactical Mobility

Pg. 29 — Counseling Soldiers

Pg. 33 — The Expeditionary Mindset: One Commander's Perspective

Pg. 35 — Arctic Summit

Pg. 38 — Start Aviator Training the Old-Fashioned Way

Pg. 42 — Assessing ADAM/BAE Cell

Pg. 47 — Paradigm Shift: Turning an Attack Team into a Scout Team

Pg. 49 — Turning Pages

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Visual materials such as photographs, pictures, charts, graphs, or drawings supporting the article should be included as separate enclosures. All visual materials should be high resolution images (preferably set at a resolution of 300dpi) saved in TIFF or JPEG format. Do not send any FOUO or classified images.

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Please forward any Reader's Respond comments to the Aviation Digest mailbox at usarmy.rucker.avncoe.mbx.aviation-digest@mail.mil.

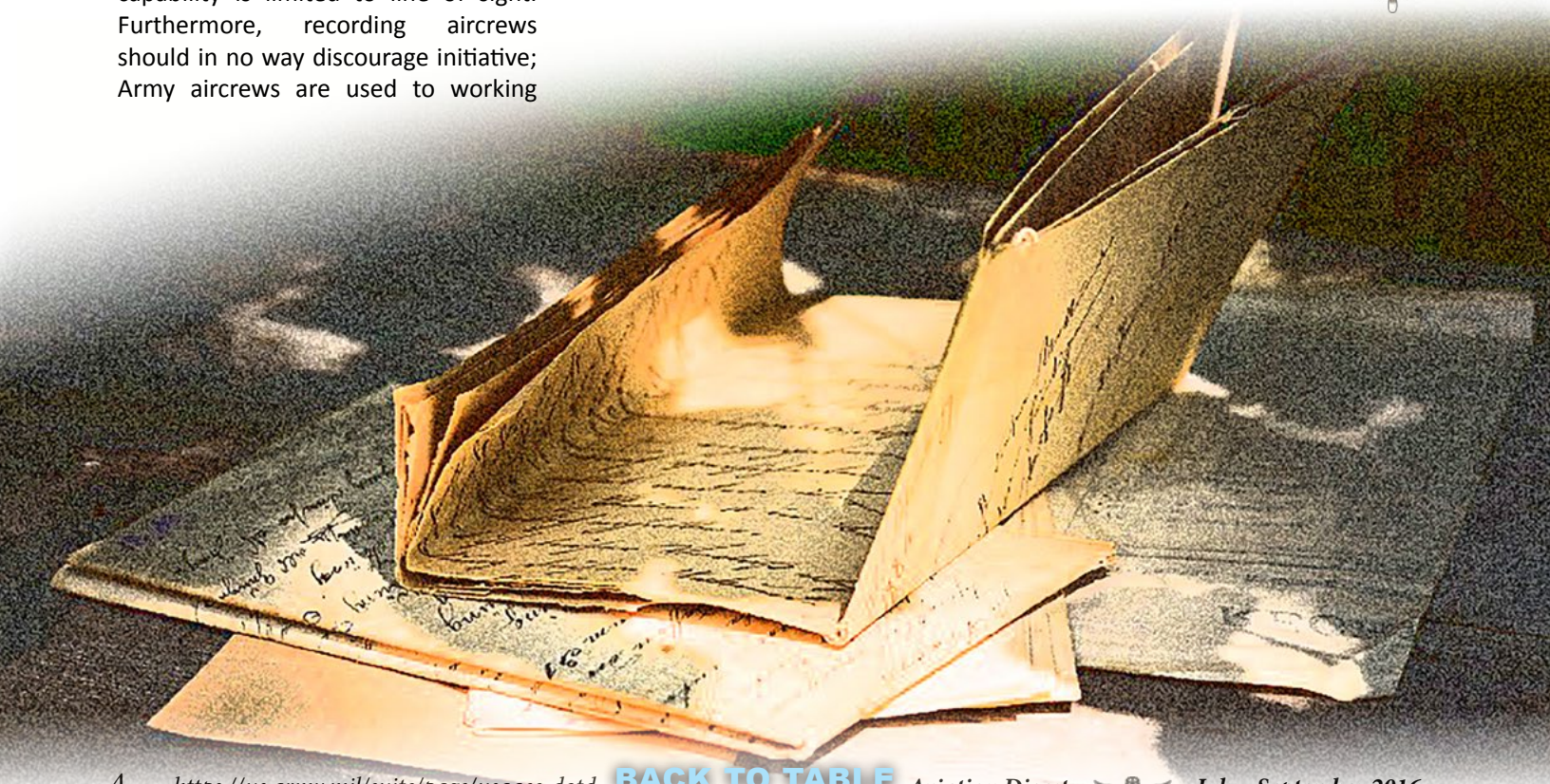
Letters to the Editor

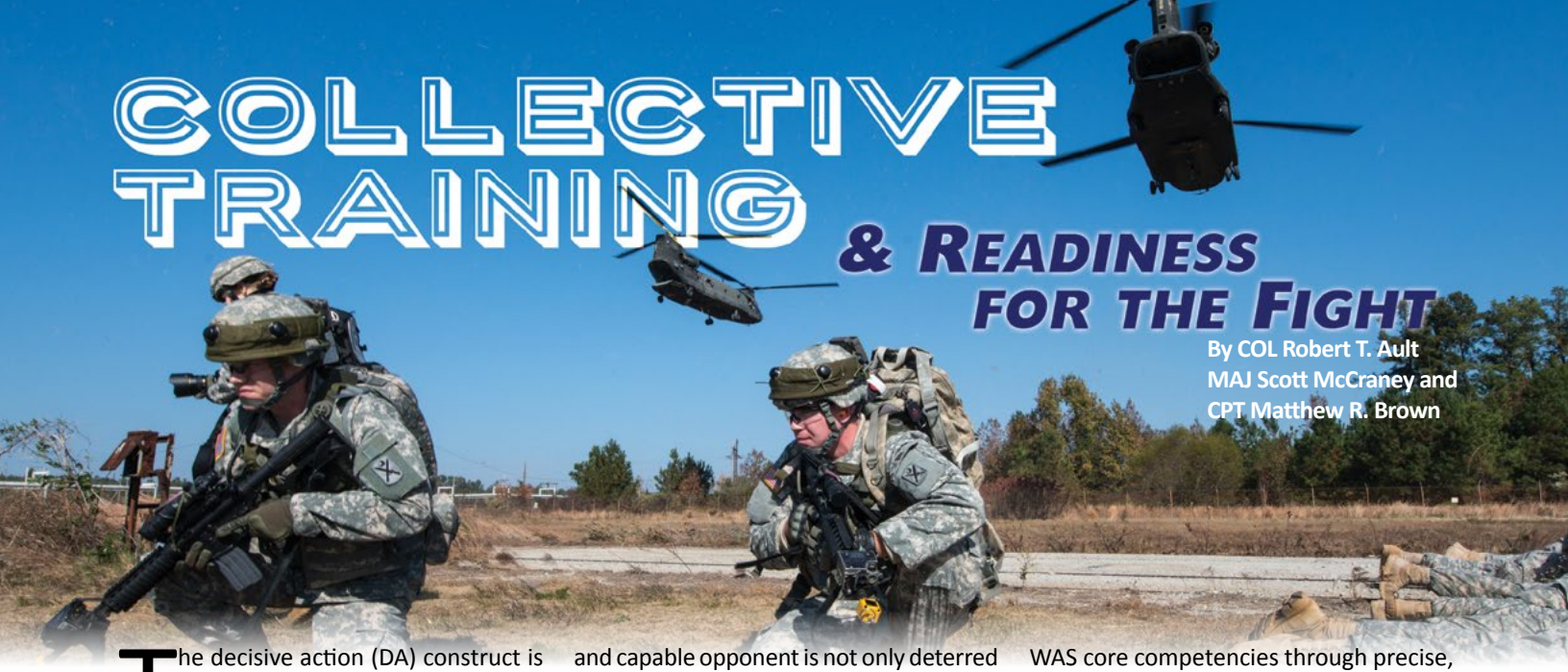
In CPT Jeff Hayes' *Aviation Digest* (Jan-Mar 2016) article, "It's More Than Just a Hat," he correctly summarizes many of the aspects that made OH-58D units successful in the Cavalry role, as well as answering the question, "What is Cavalry?" However, he incorrectly states several aspects of not just the AH-64D/E, but of Apache aircrews as well. Apache aircraft are routinely held as reserve or committed to specific missions because of the capabilities of the aircraft, not because the AH-64D/E can act as a post-execution analysis platform. In fact, not everything in the aircraft is recorded; the aircrew controls the tape. The author confuses post- accident information, available only in certain cases, with gun tape. In the 64D, this is purely video but in the 64E, it can include video and a moving map. While manned-unmanned teaming level of interoperability 2 capability allows aircraft to transmit video between themselves and ground stations, this capability is limited to line of sight. Furthermore, recording aircrews should in no way discourage initiative; Army aircrews are used to working from a distance using Blue Force Tracker and satellite communication radios. Whether or not our actions are recorded is irrelevant to the professional execution of our mission.

Secondly, while the Apache may have a reputation as a "hangar queen," this misses the point. Apache units can launch and recover aircraft just as well as their Kiowa counterparts. In fact, I recall several instances at the National Training Center when I was able to launch faster than Kiowa Warrior aircraft. Additionally, during our deployment to Afghanistan, my team routinely launched in under ten minutes. Not ten minutes at the aircraft, ten minutes from notification to wheels up. The same things the author cites as indicative of effective Cavalry (OH-58D) teams apply just as well to our success in Afghanistan. Specifically, team work, drilling quick-launch procedures, and experience. Lastly, the author mistakes the spatial and temporal proximity of the OH-58 to ground forces during missions with an effective close relationship. In Operation Iraqi Freedom and Operation Enduring Freedom, AH-64D/E units flew high in order maximize their sensor utilization, especially in urban terrain. When required, we routinely dropped down to low altitude, either for a 'show of force/presence,' to get a closer look, or other tactical necessity. Effective air-ground teams are based on mutual understanding and trust, not where the aircraft flies. It matters little if an aircraft is literally over the shoulder if the aircrew cannot effectively orient their sensor or employ effective fires. This line of thinking confuses cause for effect and demonstrates a lack of understanding as the actual Cavalry mission, as opposed to a flight mode.

MAJ John Q. Bolton

MAJ Bolton is currently attending the Defense Language Institute - Monterey. He is qualified in the AH-64D/E and has multiple deployments to Iraq and Afghanistan.





COLLECTIVE TRAINING & READINESS FOR THE FIGHT

By COL Robert T. Ault
MAJ Scott McCraney and
CPT Matthew R. Brown

The decisive action (DA) construct is characterized by offense, defense, stability, and defense support to civilian authorities (DSCA). The Army core competencies in DA are wide area security (WAS) and combined arms maneuver (CAM). The WAS mission subset of counterinsurgency in Iraq and Afghanistan has occupied the attention of the Army for the last 14 years. For aviation formations, these missions are conducted at the team and occasionally platoon level with at least battalion level mission command. However, Army doctrine demands the capability to operate against a peer enemy and win. Such a competent and capable opponent is not only deterred and shaped but ultimately defeated in the CAM mission sets.

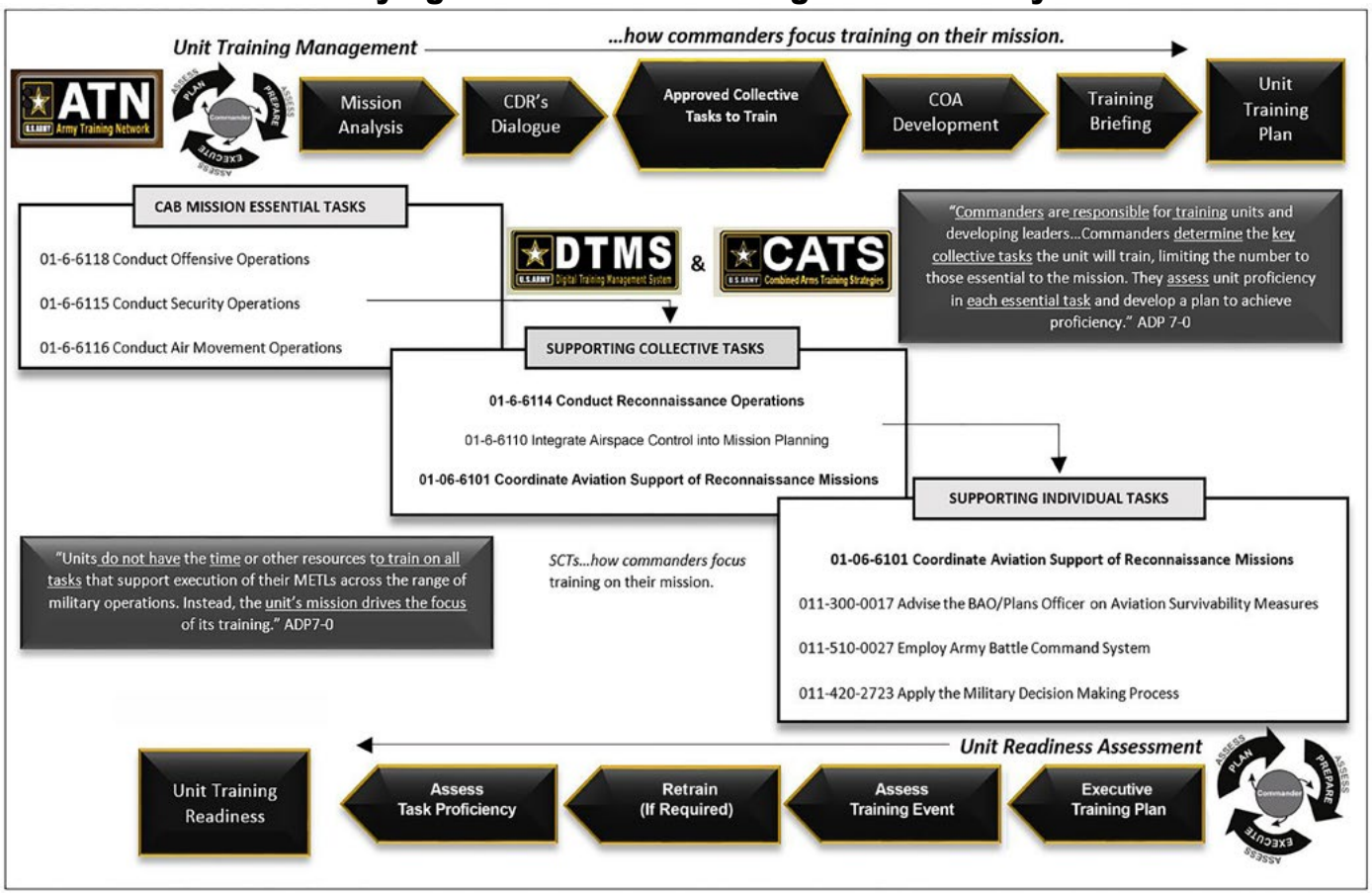
Combined arms maneuver is a significant departure from the majority of the operations of the last 14 years. Combined arms maneuver demands that leaders know how to simultaneously synchronize fires with maneuver while operating across the battlefield. Leaders can anticipate the possibility of performing both WAS and CAM in a single mission. This is characterized by platoon, company, and battalion maneuver with brigade mission command. Units gain CAM and WAS core competencies through precise, tough, and realistic collective training.

Collective training is the bedrock of producing readiness to fight in DA. Collective training is first and foremost about a unit's ability to close with and destroy enemy formations as part of a larger operation. The ability to train at the collective level is built on a solid base of individual skills and tasks. While collective training follows individual training, it is not the natural result of trained individuals. Readiness builds from individual to the collective levels at the platoon, company, and battalion.

The Military Decision Making Process in Unit Training Management

Key Inputs	Steps	Key Outputs
Mission from higher commander	Step 1 Receipt of Mission	Commander's initial guidance for training
	Warning Order	
Commander's initial training guidance	Step 2 Mission Analysis	• Proposed key collective tasks (KCT) and assessments • Unique/scarce resources • Training risk • Training readiness issues
	Commander's Dialogue	
Concurrence for: • Approved (KCT) • Unique/scarce resources • Training risk • Training readiness issues	Step 3 Course of Action (COA) Development	Training events that train the KCT
Several viable COAs	Step 4 COA Analysis	Narrow viable COAs to those 2-3 that most effectively train the unit in the time and with the resources available
2-3 viable COAs	Step 5 COA Comparison	Unit commander selects most viable, supportable COA to brief higher commander
	Warning order	
Unit commander selected COA	Step 6 COA Approval (Training Briefing)	COA approved by higher commander
COA becomes Unit Training Plan (UTP)	Step 7 Orders Production, Dissemination and Transition	UTP operations order (OPORD) communicated to higher and subordinate
	UTP OPORD	

Identifying Tasks to Train During Mission Analysis



Conversely this same readiness or competency erodes from "the" collective to "the" individual, hence leaders must never stop training their units on the basics of combat.

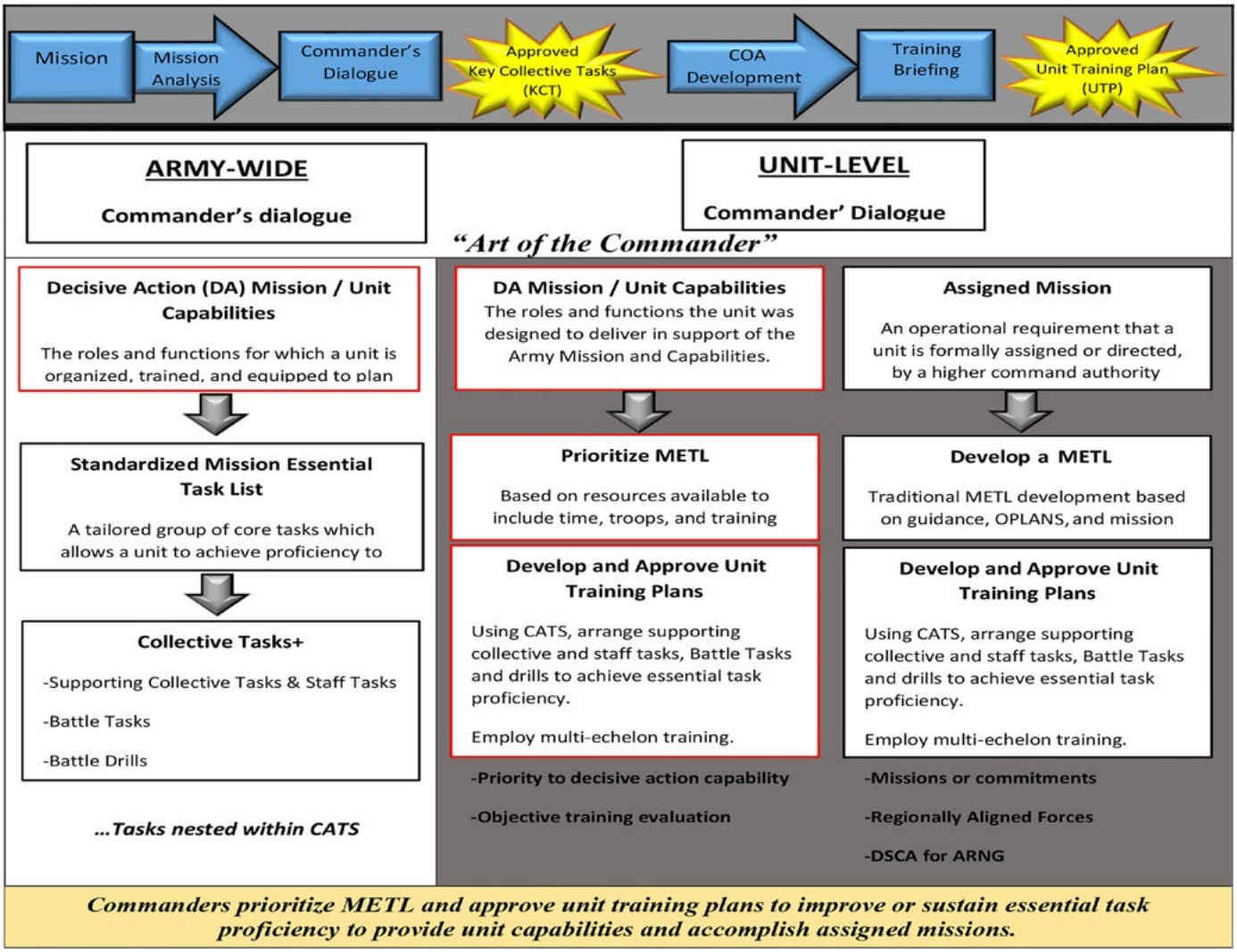
Leaders must take the step beyond individual level proficiency and train collective tasks using a deliberate training plan. The training process mirrors the military decisionmaking process.

Critical to developing a collective training plan is the commander's ability to visualize, describe, direct, and assess the training. Without a crystal clear picture of training objectives and exercise design, subordinate leaders will not be able to efficiently use resources (flying hours, fuel, range availability, ammunition, time, etc.) to create readiness. The result will be expenditure of resources with minimal training value and negative habit transfer to Soldiers and leaders.

Collective training requires mission command from the next higher unit level. Platoons conducting collective training require company commanders to not only command but also provide the necessary logistics support to reach the training objectives and certification. Without the higher commander, subordinate units are left to find the standard for themselves. This is challenging at best and practically impossible due to the inexperience of junior leaders in smaller units or the sheer size of more complex units. The Army's new standardized mission essential task lists (METL) will "level the bubble" with respect to both mission essential tasks (MET) and supporting collective tasks (SCT) down to the company level.

In aviation combat formations, the team and platoon are the basis of maneuver. Platoon leaders must be able to fight their formations as commanded by the company commander. Platoons form the basis of a company's ability to shoot, move, and communicate. Its key trainers are the company commander, platoon sergeant, and instructor pilot. The primary training activity of the platoon is the development of individual readiness. In aviation companies, the platoon leader must be an air mission commander and able to lead his unit within its capabilities in support of company missions and objectives. Platoon leaders are certified by the primary trainer in the company - the commander.

The company commander must understand how to train his company to fight. Standardization pilots and instructor pilots in the unit are primarily responsible for individual training. It is the commander's job to build on this individual level of readiness with his own training plan focused on the platoon's ability to conduct its MET. Company commanders must be able to balance the competing requirements of the platoons to train individuals with the company requirements to train platoons. Training Circular 3-04.11, *Commander's Aircrew Training Program for Individual, Crew, and Collective Training* dictates leader tasks evaluated in conjunction with his annual proficiency aviation readiness test. This means company commanders will evaluate their platoon leaders as they conduct leader tasks that focus on planning, preparing, executing, and assessing their METL. At the battalion level, battalion commanders are required



Development of the Unit Training Plan/Commander Dialogue

to evaluate company commanders as they execute their leader tasks while leading their formations in collective training scenarios. Standardized METL and objective reporting will drive the Army to measure inputs to outputs across maneuver, logistics, and support units. Moreover, collective training builds on individual training but is focused on training against those MET that a unit must be able to perform as part of their warfighting mission. This takes planning, preparation, and leader involvement in both execution and assessment. Good collective training does not just occur. Quite the opposite - entropy reigns supreme. Leaders at all levels must understand the training objectives and train to standard within the resources provided. While this sounds simple, it is important to remember the words of Carl Von Clausewitz: "In War, the simple things are hard."

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Acronym Reference

ADP - Army Doctrine Publication
ATN - Army Training Network
CAM - combined arms maneuver
CATS - Combined Arms Training Strategy
COA - course of action
DA - decisive action
DSCA - defense support to civilian authorities
DTMS - Digital Training Management System
KCT - key collective task
MET - mission essential task
METL - mission essential task list
SCT - supporting collective tasks
WAS - wide area security
UTP - unit training plan

Preparing for Joint, Interagency, Intergovernmental, and Multinational Operations

By CPT Wesley C. Williamson

In an era of decreasing budgets and varied threats, Army Aviation will increasingly participate in joint, interagency, intergovernmental, and multinational (JIIM) operations. This participation is ever more often at the platoon and company level. Therefore, Army Aviation must institutionally train Soldiers throughout their career to expect, and be familiar with, JIIM operations. This training should not be solely conducted as advanced or specialized training during broadening assignments and field grade professional military education courses but must be an integral part of a Soldier's skill set. I am not advocating all Soldiers be trained as experts in JIIM operations in their initial training. I suggest, however, that the Army familiarize Soldiers with JIIM operations at every stage of their training. Fortunately, we can greatly improve Soldiers and Aviators' preparedness to operate in JIIM environments through the integration of JIIM concepts into formal Army training at earlier stages. Minor adjustments to Aviation doctrine and training structures will pay substantial dividends at the operational level.

Just as the theoretical basis of how we fight does, JIIM education must begin with doctrine. From the earliest level of professional education, we must use and integrate joint and multinational terminology. This does not require major changes, merely the use of existing doctrine. The most ready example of this is in Field Manual (FM) 3-04, *Army Aviation*, with the extended discussion of the new "Attacks against enemy forces in close friendly contact." Beyond the obvious flaw as an unnecessary complication of terminology for a simple concept, it creates a "new" term for an action that already exists in both Joint and North Atlantic Treaty Organization (NATO) publications - namely close air support (CAS). In Army Doctrine Reference Publication ADRP 1-02, *Terms and Military Symbols* and Joint Publication 1-02, *Department of Defense Dictionary of Military and Associated Terms*, CAS is defined as, "Air action by fixed- and rotary-wing aircraft against hostile targets that are in close proximity to friendly forces and that require detailed integration of each air mission with the fire and movement of those forces." The NATO Allied Procedural Publication 6, *NATO Glossary of Terms and Definitions* (English and French) similarly defines CAS as, "Air action against hostile targets which are in close proximity to friendly forces and which require detailed integration of each air mission with the fire and movement of those forces." FM 3-04 states, "Army Aviation… conducts attacks that enable friendly ground maneuver forces in close enemy contact to seize, retain, or exploit the initiative… [T]he ground maneuver commander in close enemy contact controls the synchronization and integration of Army Aviation maneuver and the distribution and deconfliction of Army Aviation fires." The "new" term in FM 3-04 doesn't define a new concept. It instead describes the same basic concept without acknowledging the existing term. Instead of creating additional terms, Army Aviation should use existing terminology, already integrated with our JIIM partners, to improve shared understanding.

Army Aviation should next focus on integrating JIIM concepts into all training scenarios. The groundwork for this already exists. The fictional "Atropia" and the operational environment created for the combat training centers (CTC) and also used in simulation exercises in the Aviation Captains Career Course already includes joint and multinational actors. However, these actors are easily ignored in planning because they are created as adjacent units who do not play a decisive role in the exercise. By integrating these JIIM forces into the task force as contributing and necessary actors, Soldiers will train to expect and value JIIM partners as an integral part of their operations, instead of creating a separate mental construct treating JIIM as a special operation. Then, when Soldiers go to training or operational deployments with JIIM partners, they merely have to adjust their mental concept of which JIIM partners are in the operation, instead of learning an entirely new mental construct.

Without much difficulty, Army Aviation can integrate JIIM into training scenarios by inviting JIIM partners to participate in collective training exercises. The Joint Multinational Readiness Center in Grafenwoehr, Germany, provides a successful model for this. Every exercise there includes joint and multinational partners. Though the Continental U.S. CTCs cannot leverage multinational partners for training easily, they can

integrate joint and interagency training using the same framework. By leveraging the high demand for Aviation, Soldiers can continuously build upon the JIIM concepts they learn in training.

In one respect, Army Aviation is already prepared to operate well in JIIM environments. We often organize into modular task forces. Familiarity and experience in task force organization, matched to the mission set, lends itself well to JIIM task forces without requiring any noteworthy changes from current Army combined arms task forces. Army Aviation can easily support diverse JIIM customers as easily as it supports diverse Army ground forces. We should sustain this for field training and deployments, as this is where we will build upon the institutional JIIM training and build the skills that buttress the institutional training.

Army Aviation can better prepare Soldiers to operate in JIIM environments with small and simple, but important, changes. This preparation is essential in our complex and interrelated world, as these operations promise to expand in scope and increase in regularity. Familiarization with JIIM concepts ensures an efficient and effective transition as Army Aviation increasingly operates with these diverse partners and agencies. By training Soldiers to be familiar with and prepared to operate in JIIM environments, Army Aviation will set the standard for professionalism, proficiency, and preparedness.

[1] U.S. Department of the Army, FM 3-04, Army Aviation (Headquarters, Department of the Army, 29 July 2015). 1-3.
[2] U.S. Department of the Army, ADRP 1-02, Terms and Military Symbols (Headquarters, Department of the Army, 7 December 2015). 1-16.
[3] U.S. Department of Defense, JP 1-02, Department of Defense Dictionary of Military and Associated Terms (Department of Defense, 12 April 2001). 92.
[4] North Atlantic Treaty Organization Standardization Agency, AAP-06, NATO Glossary of Terms and Definitions (English and French) (North Atlantic Treaty Organization, 2013). 2-C-5.
[5] FM 3-04. 1-3.

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Acronym Reference

CAS - close air support	**JIIM -** joint, interagency, intergovernmental, and multinational
CTC - combat training center	**NATO** - North Atlantic Treaty Organization
FM - field manual	

LEVERAGING FORT RILEY RESOURCES TO EXCEL IN CHALLENGING CONDITIONS

By LTC Travis Habhab
and CPT Chris Landers

As military units prepare for missions anywhere in the world, leaders must employ different types of resources to train their formations and develop a high level of readiness. A lack of resources at many installations, the high costs to fund unit movements to traditional aviation training locations, and the desire to reduce family separation times prompted installations and commanders at every level to re-look and re-invest in home station training. Using a combination of live, virtual, constructive, and gaming resources to execute realistic mission essential task list (METL) focused training can yield forces ready to execute wartime missions in a decisive action environment. Ranking among one of the best training installations within the continental United States, Fort Riley and nearby Smoky Hill Weapons Range Complex offer resources to collectively train all METL tasks to proficiency. In August of 2015, Task Force Gunfighter (1-1 Attack Reconnaissance Battalion and additional assets from the 1st Combat Aviation Brigade) completed a successful National Training Center (NTC) rotation, destroying the largest number of enemy forces by an Aviation unit in recent memory and receiving positive feedback from the trainers and observers due in large part to the advantages provided by Fort Riley's resources. Since returning to Fort Riley following their NTC rotation, they continue to execute a retraining plan based upon after-action review comments at NTC while sharing training lessons learned across the Army.

Task Force Gunfighter consisted of 14 AH-64D Apache helicopters, six UH-60M Blackhawks, three UH-60 medical evacuation (MEDEVAC) aircraft, three CH-47 Chinooks, and nearly 400 Soldiers. Task Force leaders understood how to solve complex problems and its Soldiers were highly trained. Both were prepared to engage an unpredictable enemy in a challenging environment by leveraging Fort Riley's live, virtual, and constructive training facilities to include the Douthit Digital Multi-Purpose Range Complex (DMPRC) and the training resources at the Smoky Hill training area to ready their formations.

Live Training at Fort Riley

To replicate the austere environment the Gunfighters would encounter at NTC, they conducted METL focused training during a field training exercise (FTX) in April 2015. The Task Force focused on three METL tasks – conduct mission command, coordinate operational area security, and conduct sustainment operations. With 14 helicopters located in the tactical assembly area, the unit emplaced access control points, conducted mounted patrols, and initiated additional force protection measures to defend the formation from enemy attacks. While the command post (CP) controlled all operations, the companies conducted multi-echelon training down to the lowest level. They trained on a wide variety of tasks to include maintaining aircraft and vehicles in the field, forward arming and refueling point procedures, field feeding, first aid, and responding to an attack. The Gunfighters conducted helicopter gunnery at DMPRC and completed objective METL tasks - conduct offensive operations; perform intelligence, surveillance, and reconnaissance integration; as well as conduct reconnaissance. The DMPRC provided a flexible environment permitting live fire engagements that successfully exercised crew and platoon level gunnery skills. The Apache crews were challenged with stationary and moving targets in the open terrain and within mock urban areas requiring crew/platoon coordination to engage targets using a combination of hover, running, and diving fires. Although weather and other factors challenged the aviation gunnery portion of the FTX, the staff at DMPRC remained flexible and often adjusted hours to allow leaders to maximize training. Over a period of two weeks, the Gunfighter's Apache crews effectively employed all AH-64D weapon systems and firing modes on the battlefield to meet the commander's objective training tasks.

Through May and June 2015, Task Force Gunfighter used the extensive maneuver areas on Fort Riley and the surrounding

training areas to prepare their leaders and Soldiers for decisive action operations at NTC. Apache, Blackhawk, and Chinook pilots focused on training tactical flight tasks to refine tactics, techniques, and procedures to mass fires at decisive points, air assault ground forces to positions of advantage on the battlefield, and conduct MEDEVAC of simulated casualties. During Victory Week, the culmination of home station training prior to deployment to NTC, the Gunfighter's Apache crews conducted a company level combined arms live fire exercise at DMPRC where joint terminal attack controllers (JTAC) integrated their fires with ground force small arms fires, artillery fires, and Air Force close air support aircraft.

Live Training at Smoky Hill

In addition to the vast training resources on Fort Riley, 1st Infantry Division (1ID) units can leverage nearby areas to train their forces on wartime tasks. The Kansas Air National Guard's (ARNG) Smoky Hill Weapons Range Complex located approximately 60 miles west of Fort Riley provides over 100 tactical targets and an electronic warfare range within a 51 square mile training area. The advantages provided by this training center are the ability to conduct 360 degree weapons and tactics training at the company level as well as resourcing external assets to create more robust training packages.

Building on the decisive action collective training conducted within the Fort Riley training area, Smoky Hill provides access to training enablers such as the Kansas ARNG 284th Air Support Operations Squadron JTACs and the myriad of Air Force and Joint and Coalition Special Operations Force elements that use this unique training area. This added element provides realistic and challenging training for aviators and the opportunity to conduct air ground operations with Kansas ARNG and non-traditional units operating aircraft such as the A-10, F-16, AC-130, and B-1 that utilize the range on a daily basis. Incorporating them into planning allows for more realistic synchronization of firepower and helps train and instill the importance of effective coordination measures.

The proximity of the range complex is an added bonus in that it allows aviation units to conduct training with no stopover for refuel, yet provides enough distance to challenge mission command for over-the-horizon missions. An additional resource within Smoky Hill is the unmanned aircraft system (UAS) presence that operates in the military operations area and enables manned-unmanned teaming to conduct the movement to contact, attack, reconnaissance, and security tasks essential to effective decisive action training. Attack companies leveraged this resource on three different occasions to maneuver while working with JTACs and fixed wing aircraft and utilizing team employment tactics in support of a ground maneuver force in contact with an opposing force. Overall, the Smoky Hill environment provides invaluable training for ground, rotary-wing, UAS, and fixed-wing assets to achieve the common end-state of better prepared American warfighters.

Virtual and Constructive Training at Fort Riley

Task Force Gunfighter leveraged multiple virtual and constructive platforms at Fort Riley to train leaders and Soldiers for decisive action operations at the mission training complex (MTC). The MTC has extensive capabilities to train the mission command systems necessary to succeed in complex environments. Over the year preceding their NTC rotation, Soldiers attended individual and collective courses at the MTC. The courses ranged from learning specific systems, such as the command post of the future, to executing CP functions as a complete staff.

For two weeks in June 2015, Task Force Gunfighter executed its culminating training event before leaving for NTC. The Gunfighters established their CP at the MTC along with company CP for the Apache, Blackhawk, Chinook, MEDEVAC, and support companies. The MTC's infrastructure and personnel facilitated task force and company level mission planning, rehearsals, and execution. Each of these events was followed by detailed after-action reviews. Over two weeks, Task Force Gunfighter replicated all the mission sets they expected to encounter at the NTC. Staff and companies received valuable training on how to recognize event triggers based on expected enemy contact and then massing Apache fires at decisive points to inflict maximum destruction on the enemy. Multiple daily missions such as MEDEVAC, air movement, and air assaults served as a rehearsal for the NTC. At the command group's direction, the MTC injected battle drills and enemy contact to challenge the staff and companies forcing leaders to employ mission command while countering an unpredictable enemy. The Gunfighters set the conditions for the NTC while executing this culminating training event.

While the companies and staff were finalizing training at the MTC, aircrews used Apache, Blackhawk, and Chinook flight simulation devices to maintain individual proficiency. Additionally, platoons and companies executed attacks, movement to contacts, air movements, air assaults, and MEDEVAC collective missions in the Aviation Combined Arms Tactical Trainer while linked with the MTC, allowing the staff to track missions, provide guidance, and execute mission command.

Conclusion

Task Force Gunfighter leveraged training resources at Fort Riley to fight and win in the demanding environment of the NTC, destroying a significant percentage of the opposing forces and providing focused support to ground forces. The large number of enemy forces destroyed and positive feedback from the observer/coaches/trainers was a direct reflection of the readiness achieved at home station. A combination of live, virtual, and constructive resources at Fort Riley and nearby Smoky Hill ensured the Gunfighters were ready to execute wartime missions in a decisive action environment at the NTC. Soldiers and leaders were ready, validating Fort Riley as the best place to train, live, deploy from, and come home to. Following NTC, Gunfighter elements continued a retraining plan using the Fort Riley training resources and incorporating the trainers' after-action review comments to better prepare for future operations anywhere in the world.

LTC Travis Habhab is the Commander, 1-1 Attack Reconnaissance Battalion, Fort Riley, Kansas. LTC Habhab's previous assignments include the Professor of Military Science, University of Texas; Senior Aviation Operations Trainer, National Training Center; Battalion S-3/Executive Officer and Brigade Executive Officer, 159th Combat Aviation Brigade; Assistant Professor of Economics and Finance, United States Military Academy; Attack Company Commander, 1-227th Aviation Regiment; and the S-1 and Attack Platoon Leader, 1-6 Cavalry Regiment. LTC Habhab is a Master Aviator qualified in the AH-64 A/D and has deployments to both Afghanistan and Iraq.

CPT Chris Landers is the currently serving as Commander, F Company, 1st Aviation Regiment (Gray Eagle), 1-1 Attack Reconnaissance Battalion (ARB), Fort Riley, Kansas. CPT Lander's previous assignments include Commander, C Company, 1-1 ARB; Assistant Operations Officer, 1-1 ARB; S-1, 1-3 ARB; and Platoon Leader, C Company 1-3 ARB. CPT Landers is an AH-64D aviator and has deployed to Afghanistan in support of Operation Enduring Freedom.

Acronym Reference

1ID - 1st Infantry Division
ARNG - Air National Guard
CP - command post
DMPRC - Digital Multi-Purpose Range Complex
FTX - field training exercise
JTAC - joint terminal attack controller
MEDEVAC - medical evacuation
METL - mission essential task list
MTC - mission training complex
NTC - National Training Center
UAS - unmanned aircraft system

Preparing the Force:

Evasion and Personnel Recovery Training at Home Station

By CPT Jason Nichols

The warfighters of today share the common challenge of thriving in the unknown. Complex threats and adversaries develop worldwide while the defenders of our Nation focus on fighting the "hybrid threat." As we transition to meet these growing threats on the battlefield, it is essential that we prepare our warfighters to succeed in isolation situations, wherever the unknown takes us.

In 2015, B Troop, 1st Squadron 6th Cavalry Regiment (1-6 CAV), 1st Combat Aviation Brigade (CAB), 1st Infantry Division conducted a rigorous evasion and personnel recovery (PR) training program at Fort Riley, Kansas to prepare for future combat operations. The objective was simple: leverage available resources to provide all unit personnel with effective and realistic evasion and PR training at home station. The gated training plan included critical updates to isolated personnel records - including in-depth academic training which included refresher classes on PR operations, and a hands-on "train-up" with advanced marksmanship training. This extensive preparation culminated in a collective evasion and PR training event.

The Evasion Team Leader contacts the PRCC using a CSEL radio from their hide site.

Planning & Resources

With more than 20 live fire ranges and greater than 360 square kilometers of land with which to train, Fort Riley offers a great home station opportunity to maximize training in a field environment. Event planners selected ten days to conduct training. They reserved an individual weapon live fire range, a complex live fire range, and 22 square kilometers of land consisting of main and improved roads, tank trails, streams, urban clusters, and rolling hills with an average elevation change of 60 meters in varying elevation gradients. These provided an optimal environment to train individual reflexive fire, break contact, evasion, and personnel recovery.

A 1-6 CAV Trooper engages targets during the Break Contact live fire exercise as his teammate bounds back to cover.

Research of adversary tactics, techniques, and procedures (TTP) indicate the likely use of dogs to track isolated personnel; therefore, as an additional level of realism for our exercise, Fort Riley's 89th Military Police Military Working Dog (MWD) Detachment participated as members of the opposing force (OPFOR).

A reflexive fire drill introduced unit personnel to the practical application of the M4 carbine weapon system in close quarters. Additionally, the Soldiers trained on transitioning to the M9 pistol, as well as firing both weapon systems under night vision goggles (NVG). The break contact live fire exercise required additional planning as it is considered a non-standard range operation. Working with range control, the lead planner coordinated the use of a small urban site and the surrounding fields on a larger range to create safety fans, firing points, a target array, and firing sequence. Soldiers shot, moved, and communicated throughout the range in teams representing the crew of a downed aircraft.

A lane safety and a 1-6 CAV fire team overlook the Break Contact Live Fire range.

The CAB's 2-1 General Support Aviation Battalion and 3-1 Assault Helicopter Battalion provided support for the evasion/PR event. These lift assets provided unit personnel realistic training on the critical pick-up phase of a PR scenario.

Training & Execution

The intent of the "Train-up" phase was to bring a mix of Soldiers together that

included not only aircrews but other personnel representing a variety of military occupational specialties and levels of experience who would likely be on board a downed aircraft. The intent was to establish a baseline of the fundamental skills required for upcoming field training events.

The CAB's Judge Advocate General representative instructed Soldiers on the legal aspect of an isolation event through a "Law of Armed Conflict" brief. The 1-6 CAV S-2 presented a real-world threat brief based on current events and after-action review experiences and also briefed the unit on capabilities and TTP employed by "near-peer," adversaries. Other topics taught included code of conduct, basic evasion, basic survival, Combat Survivor Evader Locator radio operation, introduction to special instructions, individual plan of action, and evasion plan of action.

Unit personnel were required to meet proficiency "gates" during the "walk phase" in order to participate in the "run phase" that consisted of live fire exercises and a two day field problem. Soldiers focused on basics that included day and night land navigation and M4 weapons qualification. These gates mitigated risks and led to an exercise flowing from a break contact live fire to reflexive fire lanes under day and night conditions, and a 24-hour evasion.

The break-contact live-fire range was set at the base of a hill, approximately 300 meters long, consisting of orange Jersey barriers, de-milled vehicles, wooden buildings, and hand-placed pop-up targets remotely controlled by a range cadre member. This portion of the exercise simulated clearing a downed aircraft and the initial movement to cover. Firers conducted the range in teams of two, simultaneously executing separate lanes while each firer was positively controlled by range control personnel. Once cleared to start, the team quickly deployed their M4s, engaging pop-up targets approximately 50-75 meters away. The team conservatively engaged targets as they synchronized movements using concise communication. Following their final magazine change, the fire team made the decision to make their final bound to the nearby wood line for what would mark the transition from break contact to evasion. The team's efforts continued to focus on rifle and pistol reflexive engagement exercises the following day and culminated with night engagements using NVG.

Once the Soldiers completed advanced weapons training, UH-60s dispersed teams in the training area for the evasion portion of the exercise. The storyline was that the aircraft was forced down by enemy fire and to avoid capture, the crew needed to initiate evasion procedures. Once isolated, immediate priorities were to establish security, assess the situation, and contact 1CAB's Personnel Recovery Coordination Cell (PRCC) to communicate the status of the team and coordinate rescue.

As the storyline progressed, the PRCC could not affect an immediate rescue attempt necessitating that the crews evade a pursuing enemy for the next 24 hours. The OPFOR, resourced with a MWD team, 5.56mm blank rounds, artillery simulators, and smoke grenades, were able to replicate a realistic threat and a true sense for the evasion teams of being hunted by a determined enemy.

After evading the enemy for more than 24 hours, evaders approached their link-up points for extraction. The evasion teams held at a consolidated pick-up zone (PZ) as directed by the PRCC and were ssuccessfully recovered by CH-47.

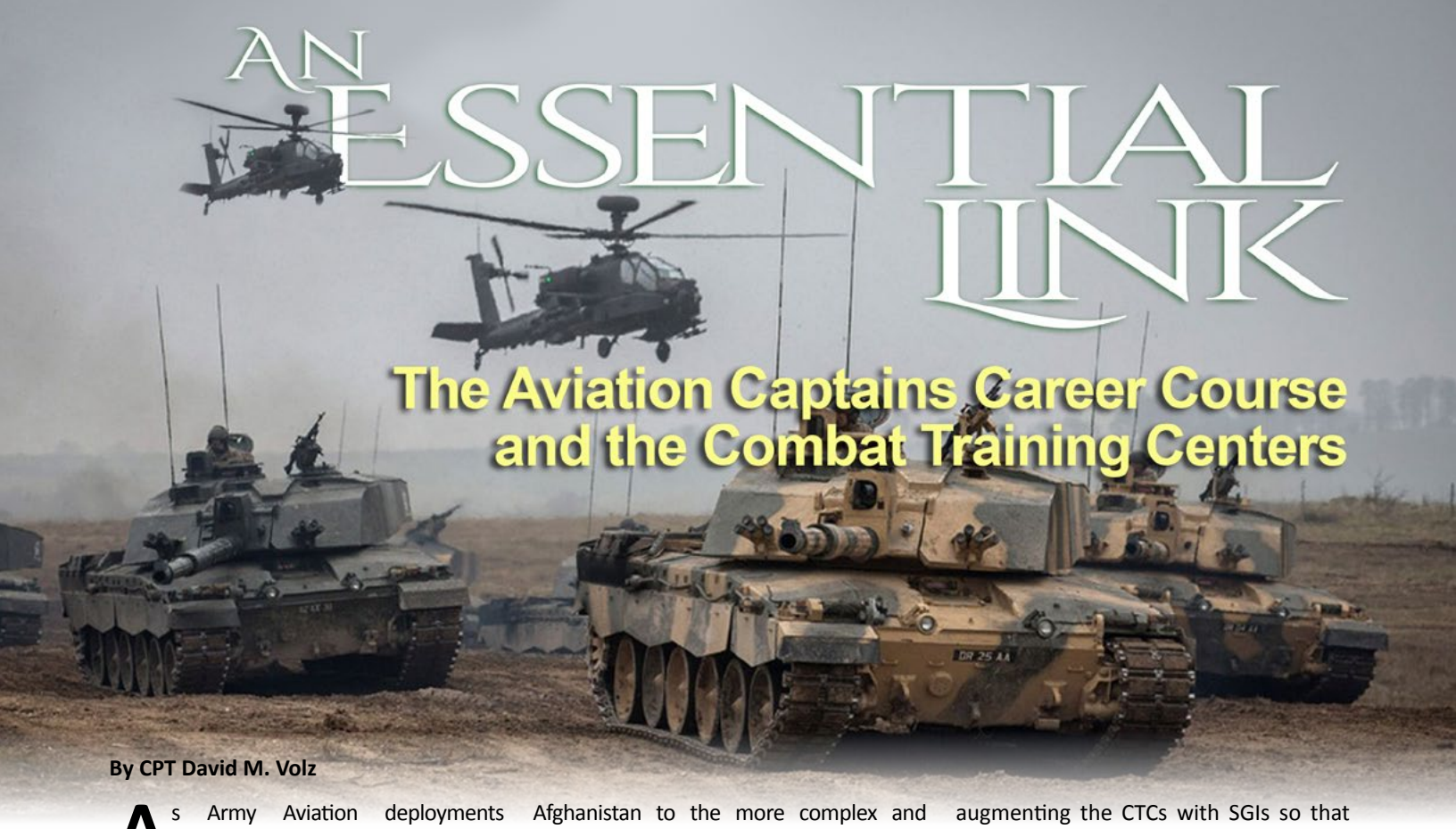
As a result of this training, 1-6 Cav Soldiers obtained quality PR skills and are better prepared to perform in an isolation event wherever they are deployed to meet the next threat. Given the potential risk and probability of isolated personnel events in the current global environment, PR training is essential to mission readiness. Through employment of home station training resources, teamwork of adjacent units, and creative training solutions, leaders from all branches of service have the capability to conduct PR training to build confidence and capacity in isolated personnel events.

1-6 CAV Troopers board the CH-47F "Freedom Bird" after 24 hours of evasion.

CPT Jason Nichols is presently attending the Maneuver Captains Career Course at Fort Benning, GA. CPT Nichols' previous assignments include Commander, B Troop, 1st Squadron, 6th Cavalry Regiment and S-4, assistant S-3, and platoon leader for Task Force Saber. He has deployed for Operation Enduring Freedom XIII. CPT Nichols has seven years' service. He is qualified in the OH-58D.

Acronym Reference

1-6 CAV - 1st Squadron 6th Cavalry Regiment
CAB - combat aviation brigade
MWD - military working dog
NVG - night vision goggles
OPFOR - opposing force
PR - personnel recovery
PRCC - Personnel Recovery Coordination Cell
PZ - pick-up zone
TTP - tactics, techniques, and procedures



An Essential Link

The Aviation Captains Career Course and the Combat Training Centers

By CPT David M. Volz

As Army Aviation deployments continue to draw down, the combat training center's (CTC) aggressor forces are the Army's principle means of executing large scale, force-on-force operations and validating training objectives. The professional military education (PME) courses, specifically the Aviation Captains Career Course (AVCCC), remain a primary means of educating future company commanders in the doctrinal foundation necessary to train their units. The three domains of leader development—institutional, operational, and self-developmental—when balanced, coalesce to ensure that our officers stand ready to effectively lead their organizations. Unfortunately, the officers attending these courses often demonstrate doctrinal knowledge and training management deficits that significantly impact their ability to maximize their unit's combat potential. As Army Aviation makes its transition from years of extended counterinsurgency (COIN) operations to large scale combined arms maneuver, the officers who will lead this effort need the instruction and coaching provided by the coordinated efforts of the AVCCC and the CTCs to correct these deficiencies.

Adapting to the transition from COIN operations experienced in Iraq and Afghanistan to the more complex and conventional engagements stressed in decisive action environments, the AVCCC underwent a re-design over the last year. In conjunction with the AVCCC's academic changes, the United States Army Aviation Center of Excellence (USAACE) leadership directed a closer relationship between the AVCCC's Small Group Instructors (SGI) and the combat training center's observers/coaches-trainers (OCT). The intent of this association is to create a symbiotic relationship between the personnel of the organization that teach doctrine and training management and those who evaluate and critique unit implementation in the rigors of the CTC simulated combat environment. This places the AVCCC SGI in a position where he is able to observe, first hand, rotational unit strengths and deficiencies that might be brought back to the classroom and incorporated as changes to improve the AVCCC program of instruction. The exchange also keeps the CTC's OCTs current on doctrine, training management, and other concepts currently being presented in USAACE PME.

Earlier this year, the first SGI served as a National Training Center (NTC) OCT augmentee with the Eagle (Aviation) Observer Team. The plan is to continue augmenting the CTCs with SGIs so that they see and understand unit mission planning, preparation, and execution from an OCT's perspective and build upon that relationship in order to allow the AVCCC to maintain relevancy in the preparation of capable Aviation company commanders. Additionally, the AVCC; the OCT teams at the NTC, Joint Readiness Training Center, and Joint Multinational Readiness Center; and the USAACE Directorate of Training and Doctrine, responsible for the AVCCC and all other USAACE PME program of instruction and Army Aviation Doctrine, conduct scheduled video teleconferences to share current and emerging doctrinal information, individual unit trends that might reflect institutional training deficiencies, and changes required to better refine the Aviation officers and future commander PME. This cooperative relationship between the CTCs and the AVCCC standardizes the areas in which the force receives emphasis and enables instructors to address observed doctrinal deficiencies quickly, thus bridging the gap between doctrinal understanding and operational execution. The intent is to develop an Aviation company commander who understands Army doctrine and unit training management and is, therefore, better prepared to train his unit for combat.

The relationship between the CTCs and the AVCCC allows both organizations to benefit from the other's developmental domain. Students attending PME courses frequently state that unit application of Army Aviation principles rarely align with current doctrine. Yet, from observation, most students are not familiar with Army doctrine or the application of unit collective training. As a result, the increased emphasis on cooperation between the CTCs and AVCCC is intended to correct this training deficiency with more emphasis on doctrinal aspects of decisive action operations and preparing and conducting unit collective training events.

In the short time span that this initiative has been enacted, there have been numerous benefits of the CTC and AVCCC cooperative relationship. For instance, OCTs noted that Aviation officers do not always understand how to implement troop leading procedures in aviation operations, even though it is listed in almost every mission essential task list. They communicated this observation to the AVCCC in an effort to affect the courses' emphasis and correct the shortcoming. The AVCCC redesign now intensely focuses on this aspect, ensuring that students undergo multiple planning iterations using troop leading procedures. This change, made in parallel with the Maneuver Captains Career Course, further aligns the two captain's career course programs of instruction and will assist the OCTs as they continue to observe and coach units undergoing CTC training rotations.

The CTCs also observed a fundamental disparity between Aviation officers' capabilities to conduct analog and digital battle tracking and planning. Again, the AVCCC corrected for this observation in the new program of instruction to ensure AVCCC students demonstrate proficiency with analog planning, monitoring, and executing combat capabilities before they proceed to using digital systems thus affording the CTCs and the AVCCC the opportunity to emphasize the same areas in both the instructional and operational domains.

This relationship between the CTCs and the AVCCC enables a quicker turnaround between observing doctrinal knowledge gaps and collective training capabilities and addressing them with future Aviation company commanders. Following 15 years of COIN operations, an evaluation of potential future threats to national interest, and while not ruling out a continuation of COIN operations, PME has shifted to bring doctrine involving the application of large scale maneuver forces back to the forefront. The AVCCC requires its students to plan every type of major aviation operation in a decisive action environment. While student input is important, Aviation officer PME does not rely solely on student critiques to identify and fix course deficiencies in subsequent classes. Rather, regular communication between SGIs and OCTs allows the AVCCC to make almost instantaneous course adjustments to correct deficiencies identified during the practical application of warfighting skills at the CTCs.

Constant communication and coordination between the CTCs and the AVCCC enable SGIs and OCTs to focus on doctrinally correct institutional instruction and operational application. Ultimately, this relationship will benefit our Aviation organizations by creating and then continuing to coach Aviation officers as they progress into and through their commands and staff time. These Army leaders must display critical thinking but must also understand the doctrine of decisive action operations. Continue fostering of this relationship will create well-rounded leaders capable of leading our nation's greatest asset – our Soldiers.

CPT David M. Volz is currently an Aviation Captains Career Course Small Group Instructor at the United States Army Aviation Center of Excellence, Fort Rucker, AL. CPT Volz served as a maintenance company executive officer, flight platoon leader, current and future operations assistant S-3, a headquarters and headquarters company commander, and combat aviation brigade assistant S-4. He has deployed in support of Operation Enduring Freedom. CPT Volz has 8 years of military service and is a qualified in the UH-60A/L and OH-58 A/C.

Acronym Reference

AVCCC - Aviation Captains Career Course
CTC - combat training center
NTC - National Traing Center
OCT - observers/coaches-trainers
PME - professional military education
SGI - small group instructors
USAACE - United States Army Aviation Center of Excellence

Army Aviation Training & the Combined Arms Training Strategy Program

BY Eric S. Peckham,
Michael A. Powell
and Richard Case

Army Aviation training has been subject to several major changes over the past twelve months. These changes include: the development and approval of Department of the Army (DA) Mission Essential Task Lists (METL) standardized down to the company level, the introduction of the Army Readiness Training and Reporting (ARTR) system, the ongoing replacement of the Army Force Generation (ARFORGEN) training model with the Sustainable Readiness Model (SRM), and - one of the most significant changes - the integration of Combined Arms Training Strategy (CATS) data from the Digital Training Management System (DTMS) into the Army's Net-centric Unit Status Report (NetUSR) system. The CATS program is used by leaders to assist with building a unit training and assessment plan for collective training that includes these recent changes.

The CATS is the Army's overarching strategy for training the force. Aviation CATS is made up of collective training products developed and approved by the aviation proponent and provided to Active and Reserve component aviation commanders through the Army Training Network (ATN) and the DTMS. Unit CATS products are developed for all current DA approved aviation tables of organization and equipment (TOE) and are designed to assist the commander and staff with developing the unit training plan (UTP).

The CATS contains descriptive, task-based training plans that provide "a way" to build and sustain unit training readiness throughout the SRM training cycle (figure 1). The CATS is built around the functions and capabilities of the unit's TOE and highlight mission essential tasks (MET) and supporting collective tasks (SCT) (figure 2). Digital links within the CATS (on ATN and in DTMS) provide commanders access to task conditions, standards, performance steps, and performance measures within each collective task's training and evaluation outline (T&EO). The collective tasks are grouped into task sets (formerly task selections) that focus on a specific function or capability that the unit is designed to perform (figures 3-5). The unit CATS and its associated task sets provide a base strategy for unit commanders to plan, prepare, execute, and assess unit training. The commander may use CATS data to develop the UTP and training calendar (figure 6) by choosing task sets, collective tasks, and training events, based on the unit METL and an assessment of the unit's collective task proficiency.

Command Relationship/Force Structure

Figure 1. CATS Overview/Unit Hierarchy. This diagram shows the unit hierarchy (command relationship) for an attack reconnaissance troop–TOE 01287R100.

01287K100 Attack Recon Troop primary TOE stated capabilities:
Attack helicopter elements for ... Aerial firepower, mobility, and shock effect as a maneuver element of the respective division...

TOE capability

DA Standardized METL (01287R100) — Search for METL

Mission: ATTACK/RECON TROOP (AH64/Shadow)
Description: To destroy enemy armored, mechanized, and other massed forces through the use of aerial firepower, mobility, and shock effect.

Number	Name	
01-2-5179	Conduct Aerial Deliberate Attack Missions (Company/Troop)	Add
01-2-5186	Conduct Aerial Screening Missions (Company/Troop)	Add
01-2-5193	Conduct Aerial Hasty Attack Missions (Company/Troop)	Add
01-2-5195	Conduct Aerial Movement to Contact Missions (Company/Troop)	Add
01-2-9015	Conduct Aerial Reconnaissance Missions (Company/Troop)	Add
55-2-4830	Conduct Expeditionary Deployment Operations in Support of the Offense, Defense, Stability and defense support of civil authorities (DSCA)	Add

MET for Deliberate Attack

CATS Unit Training Planner

Welcome to the Unit Training Planner — Training Plan : Attack Recon Troop-1 METL : ATTACK/RECON TROOP (AH-64/SHADOW) (01287R100) Component : Active

Overview | METL | Tasks to Train | Task Set | Events | Calendar | Confirmation

Mission : To destroy enemy armored, mechanized, and other massed forces through the use of aerial firepower, mobility, and shock effect.
Status : HQDA Approved METL

Number	Name
01-2-5179	Conduct Aerial Deliberate Attack Missions (Company/Troop)
01-1-5163	Employ Aircraft Survivability Measures
01-2-5183	Conduct Enroute Aerial Maneuver Missions
01-2-5200	Conduct Direct/Indirect Fire Planning In Support Of Aviation Missions
01-2-5201	Perform Aerial Engagement Area (EA) Tactical Missions
01-2-7917	Conduct Aerial Attack Missions (Company/Troop)
01-2-9017	Perform Aviation Missions Within Airspace Coordinating Measures
71-2-5100	Conduct Troop Leading Procedures for Companies

MET for Deliberate Attack

SCTs

Figure 2. The DA Standardized METL. This diagram shows the DA standardized METL for the ▲ attack reconnaissance troop–TOE 01287R100. The aerial deliberate attack mission essential task (MET) is expanded to show the SCT for this MET.

Task sets are the core of each CATS. They list recommended events (e.g., classes, situational training exercises, field training exercises), iterations for both Active and Reserve component training cycles, condition (i.e., crawl, walk, or run), training domains (i.e., live, virtual, constructive, or gaming), and the recommended training audience. In addition, training aids, devices, simulators and simulations (TADSS); facilities; and resources (e.g., equipment, flight hours, and ammunition) are recommended. Each task set contains an overview with description and training guidance, and contains purpose, outcome, and execution guidance (POEG) for each event within the task set.

01287K100 Attack Recon Troop primary TOE stated capabilities:
Attack helicopter elements for ... Aerial firepower, mobility, and shock effect as a maneuver element of the respective division...

Task Set of associated tasks to train a specific capability: **01-TS-2806 Conduct Aerial Attack Operations**

Collective tasks to train the specific capability

01-1-5163 Employ Aircraft Survivability Measures
...
01-2-5179 Conduct Aerial Deliberate Attack Missions (Company/Troop)
...
01-2-7800 Conduct Manned Unmanned Teaming Missions
...
01-2-7917 Conduct Aerial Attack Missions (Company/Troop)
...

Events that enable the task set to be trained to proficiency in a crawl-walk-run methodology
TM TNG FOR CONDUCT AERIAL ATTACK OPERATIONS
STX FOR CONDUCT AERIAL ATTACK OPERATIONS
FTX FOR CONDUCT ATTACK RECONNAISSANCE COMPANY/TROOP OPERATIONS

Events are structured to achieve required proficiency and described to assist commanders: STX for Conduct Aerial Attack Operations
Active/Reserve – cycle, iterations, and durations of the event are defined
Condition: Walk
Training Audience: TROOP HEADQUARTERS, ATTACK/RECON PLATOON (AH-64), ATTACK/RECON PLATOON (AH-64), ...
TADSS: 01-146: Aviation Combined Arms Tactical Trainer (AVCATT) (1)
Multi-Echelon Training: No multi-echelon events suggested
Concurrent Training: No concurrent training suggested
Domain: Live, Virtual
Training Gates:
Action Gates: TM TNG for Conduct Aerial Attack Operations
Facilities: Local Training Area, Simulator Center
Purpose: Train personnel and attain unit proficiency on tasks, processes, and procedures associated with planning and conducting aerial attack operations.
Outcome: Unit is proficient on tasks, processes, and procedures for planning, coordinating, and executing aerial attack operations.
Execution Guidance: The STX is intended to attain proficiency on the tasks, processes, and procedures for planning, coordinating, and executing ...
Resources: LIN, Quantity, Nomenclature, OPTEMPO, Class 3-POL, and Class 5 Ammunition (LIN and Non-Lin) (e.g., H05006/4/AH64E/3 hrs/1384.8 gallons)

▶ **Figure 3.** Task Set Details. This diagram shows the relationship between a designed unit capability (TOE mission), the collective tasks contained within the selected task set, the training events available in the task set, and a training summary (POEG statement).

The information contained within a task set details the specific METL, function or capability, and echelon it is designed to train. It recommends a training progression for the unit to obtain full proficiency in the selected collective tasks in complex and challenging environments. Also, each task set lists ARTR assessment standards of fully trained (T), trained (T-), practiced (P), marginally practiced (P-), or untrained (U) so that units can assess their training readiness when conducting mission analysis or developing/updating their UTP. In order for the commander to report a proficiency level of T, the unit must receive an external evaluation of its METs.

For example, if the commander of an attack reconnaissance troop wants to conduct unit training on the MET for an aerial deliberate attack mission then he can choose the "Conduct Aerial Attack Operations" task set within the unit's CATS. The task set contains recommended collective tasks that may be trained using team training and situational training exercise (STX) events in a crawl-walk-run progression. In this example, the selected task set provides a methodology for the unit to obtain walk-level proficiency in the capability of conducting an aerial attack. Once the unit reaches proficiency at the walk level (via the STX), the unit would then train and demonstrate run-level proficiency during a future training event, such as a unit field training exercise.

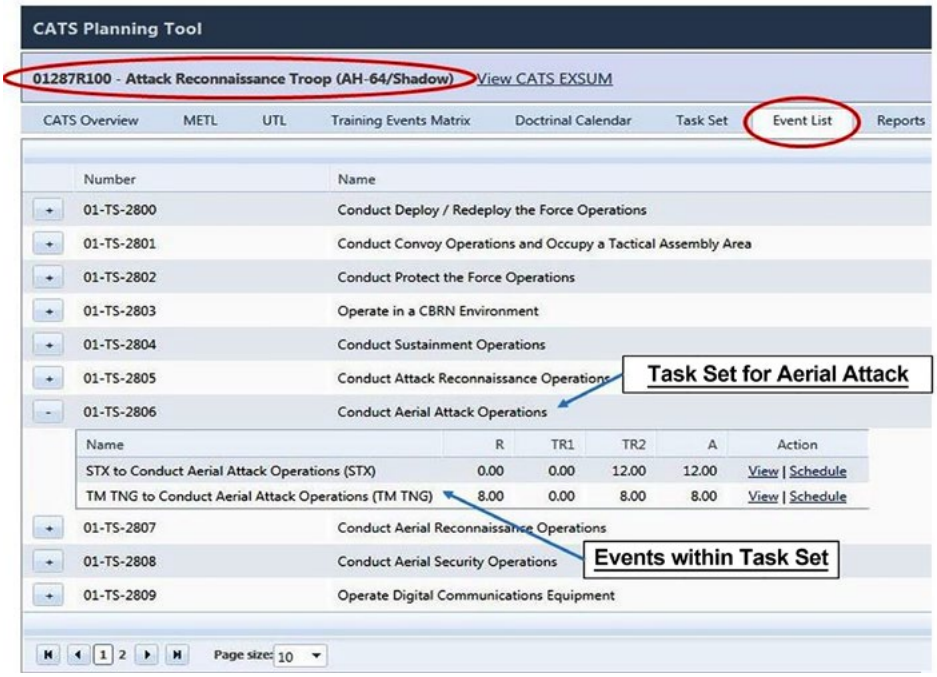


Figure 5. Event List. This diagram is an excerpt from the "Event List" tab within the CATS Planning Tool in DTMS. It illustrates the relationship between the selected task set (Conduct Aerial Attack Operations) and the available training events built into the selected task set.

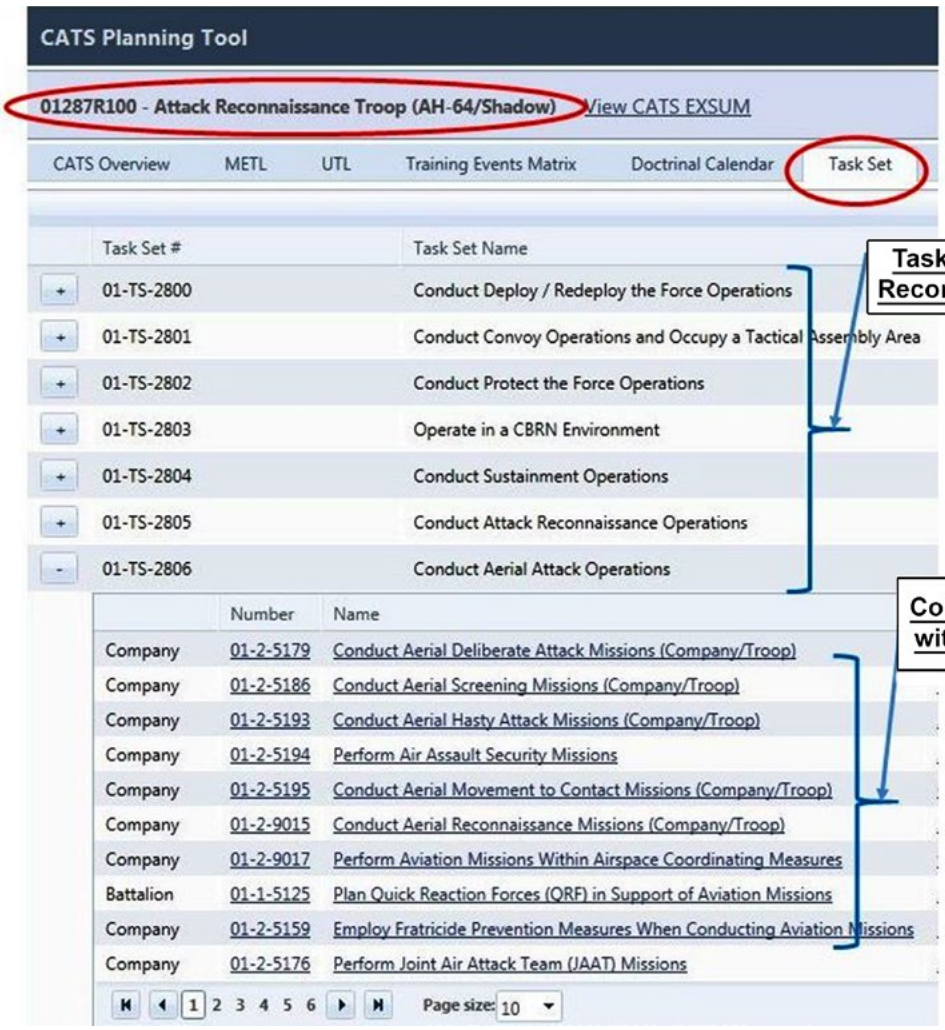


Figure 4. Task Set–Attack Reconnaissance Troop. This diagram is an excerpt from the "Task Set" tab within the CATS Planning Tool in DTMS. It illustrates the relationship between the selected task set (Conduct Aerial Attack Operations) and the available collective tasks built into the selected task set.

The CATS available to the force through DTMS is flexible and may be tailored to meet the particular needs of the using unit. Accessing CATS through DTMS is unit TOE number specific and provides users with the full range of system planning and tracking capabilities. Users must have a DTMS account with appropriate permissions acquired through the unit's DTMS manager to enable unit specific access. Accessing CATS through DTMS facilitates the ability to plan and assess training, maintain a record of collective task proficiency, and compile after action review reports. CATS may also be viewed through the ATN.

The CATS ATN feature allows anyone with a common access card the ability

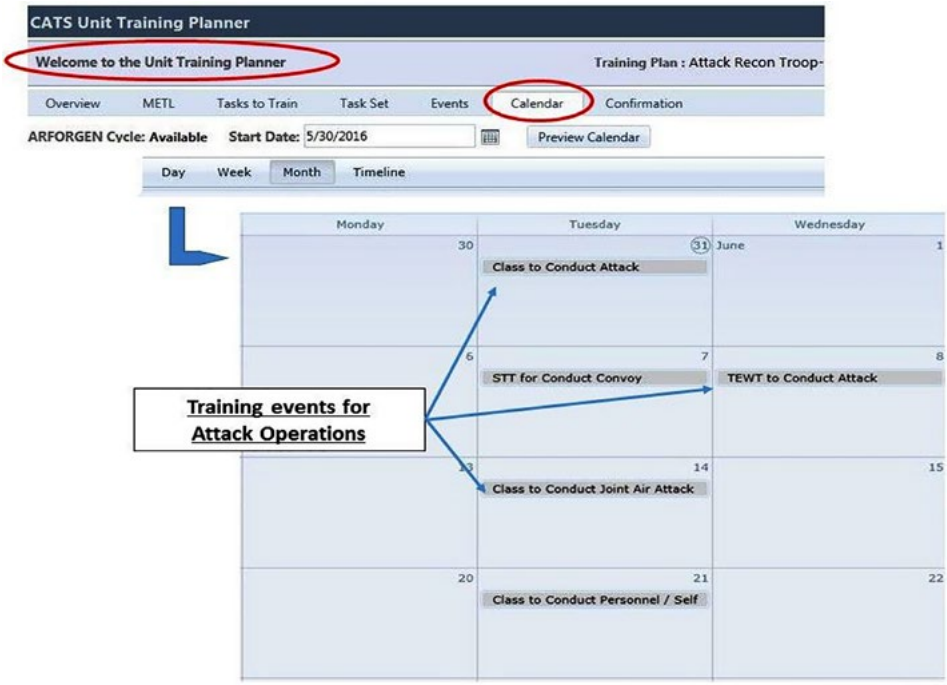


Figure 6. Unit Planning Calendar. This diagram is an excerpt from within the CATS Planning Tool in DTMS. It illustrates a sample planning calendar for an attack reconnaissance troop. Sample calendars are provided by the aviation proponent within every aviation unit CATS.

to view approved CATS. The ATN website also offers a CATS knowledge base link. The CATS knowledge base contains links to the DTMS CATS planning tool, DA Standardized METL, and TADSS. It also provides access to CATS-related publications and references, tutorials, briefings, frequently asked questions, and CATS program points of contact.

Aviation CATS analysts are incorporating ARTR initiatives to better assist commanders with assessing unit training and readiness. These initiatives are currently being implemented into all training strategies and training management products with a tentative delivery to the field of November 2016. The ARTR initiative is comprised of two major components. First, it establishes a more defined and quantifiable "Objective" assessment of collective and individual tasks. Secondly, it will establish a digital transfer (link) of the DTMS data used to create the training plans and subsequent objective assessments that will automatically populate relevant training assessment data into the NetUSR program. The ARTR will meet the longstanding need to directly link the training planning system with the readiness reporting system to provide an objective reporting system with robust and detailed evaluation criteria.

Soldiers may request assistance in using CATS, developing their UTPs, or other CATS-related issues through the "Ask a Trainer" option under the "Collaborate" tab on the ATN homepage at https://atn.army.mil/frm_askTrainer.aspx. Additional assistance is available by calling the DTMS Help Desk located in the Training Management Division, Fort Leavenworth, Kansas at (913) 684-2700, DSN 552-2700 or toll free at (877) 241-0347.

Additionally, aviation specific CATS analysts are available to conduct Mobile Training Team visits at no cost to the unit. Typically, these visits are two to three days in length and conducted on a weekend for Reserve and National Guard units. To request a unit visit contact any one of the CATS Program points of contact listed at the bottom of the CATS Knowledge Base web page at: https://atn.army.mil/dsp_template.aspx?dpID=336.

[1] Milley, Mark. Army Readiness Guidance, Calendar Year 2016-17. Washington. Department of the Army. January 2016. Web. <https://www.army.mil/e2/downloads/rv7/standto/docs/army_readiness_guidance.pdf>

[2] U.S. Army Aviation Center of Excellence. Army Aviation Training Strategy. Fort Rucker. U.S. Army Aviation Center of Excellence. January 2016. Web <https://www.us.army.mil/suite/page/usaace-dotd>

[3] Department of the Army. TRADOC Pamphlet 350-70-1,Training Development in Support of the Operational Domain. Fort Eustis. U.S. Army Training and Doctrine Command. February 2012. Web. <http://www.tradoc.army.mil/tpubs/pamndx.htm>

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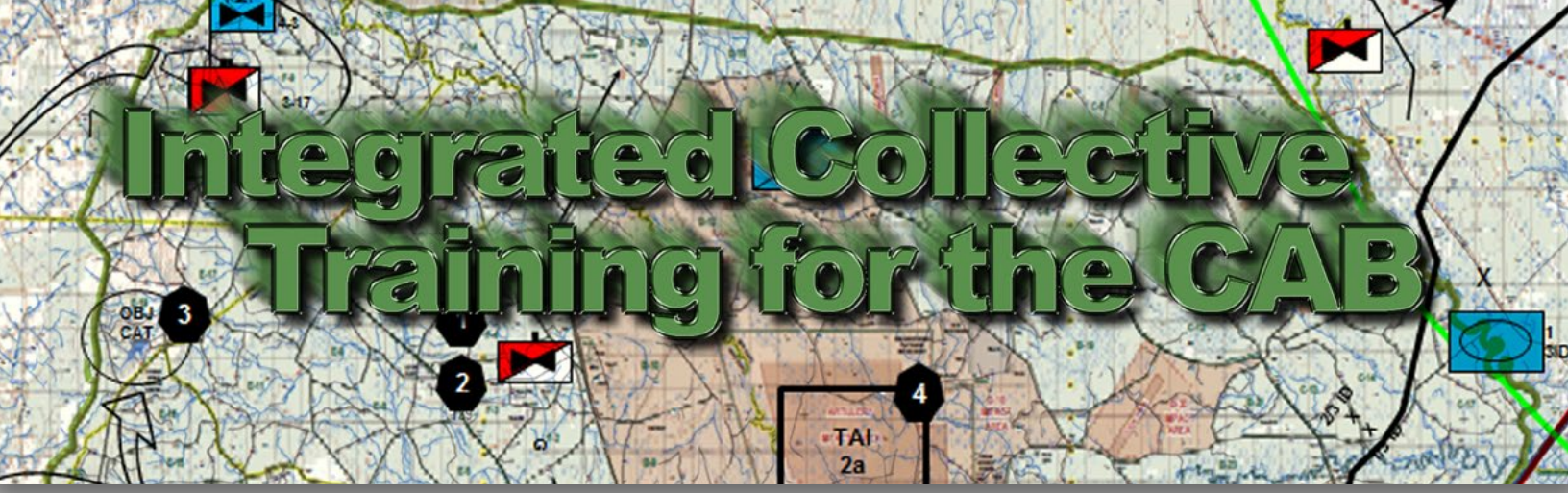
Acronym Reference

ARFORGEN - Army Force Generation
ARTR - Army Readiness Training and Reporting
ATN - Army Training Network
CATS - Combined Arms Training Strategy
DTMS - Digital Training Management System
DA - Department of the Army
METL - mission essential task list
MET - mission essential task
NetUSR - Net-centric Unit Status Report
POEG - purpose, outcome, and execution guidance
SCT - supporting collective tasks
SRM - Sustainable Readiness Model
STX - situational training exercise
TADSS - training aids, devices, simulators, and simulations
T&EO - training and evaluation outline
TOE - table of organization and equipment
UTP - unit training plan



Integrated Collective Training for the CAB

"Combat readiness is built through tough, realistic training and leader development"

– 2016 Army Aviation Training Strategy

Our combat training centers (CTC) currently do not support training an entire combat aviation brigade (CAB) in mission command of its subordinate elements. The CTC model is excellent for training brigade combat team (BCT) rotations and the aviation battalion task forces commonly deployed to support them. The only collective training tool available to the CABs to exercise command and control and conduct maneuver of their organic battalions are war fighter exercises controlled by the Mission Command Training Program (MCTP). The CAB may use their home station Mission Command Training Complex (MCTC) to train individual systems (e.g. Command Post of the Future, Tactical Airspace Integration System, Advanced Field Artillery Tactical Data System) and to conduct collective command post (CP) exercises but the CAB must contend for the same resources as adjacent brigades, support of division leadership, land, ammunition, and time. These are critical factors in facilitating a successful home station training event.

Collective training is where leaders learn to lead, Soldiers hone their warfighting skills, and units train to mastery. [It] is the heart of building combat power. Collective training in the operational domain is where the Army focuses most its time, effort, and resources.[1] Army Aviation's leadership acknowledges that our aviation formations are very well trained to maneuver at the platoon and team levels. However, the Army's new objective training readiness initiative, driven by the capabilities of potential adversaries, demands that CABs possess the ability to execute mission command and be able to effectively maneuver their battalions. Home station training is the primary location where commanders prepare formations for combat and build readiness.

The Army Aviation Training Strategy further illuminates the significance of home station training and the role of leaders at echelon:

> Commanders and leaders at each echelon must drive relevant, rigorous, and realistic training through effective unit training management to ensure that we train the way we intend to fight.[2] Home station training must be realistic, challenging, and complex. Well resourced, planned, and synchronized collective training requires the application of the military decision making process. Planning a training event is no different than planning an operation.[3]

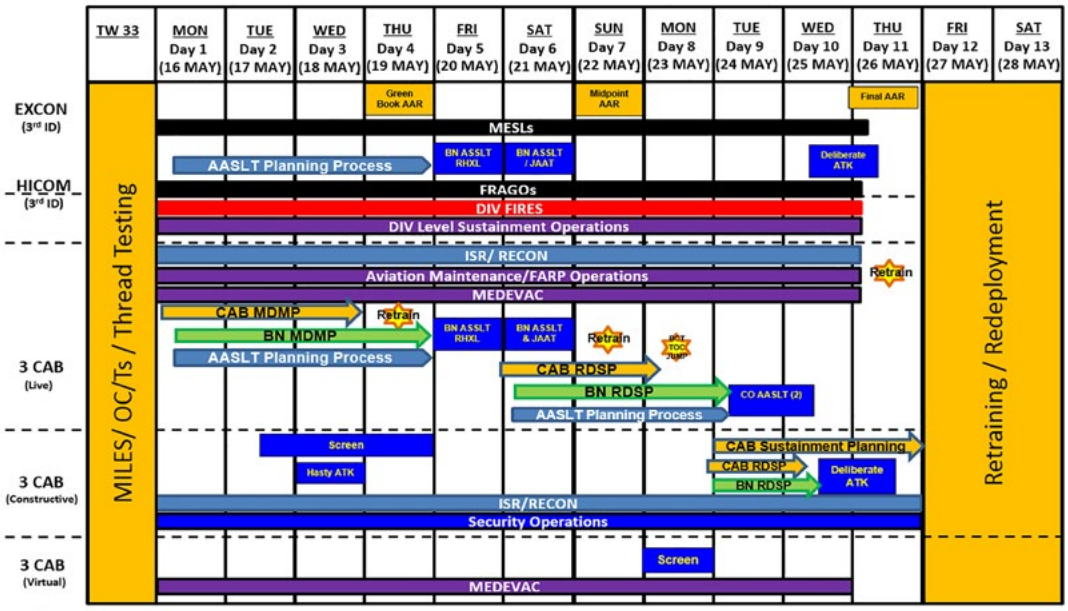
In May 2016, 3rd CAB, 3rd Infantry Division (ID) executed FALCON FOCUS as a field training exercise incorporating live, virtual, and constructive (LVC) integrated training architecture in a decisive action training environment. The 3rd ID Commander and staff enabled the training by dedicating resources and time to the development and execution of the exercise. The 3rd ID Deputy Commanding General - Operations was the FALCON FOCUS exercise director. The division resourced planners, an exercise control section, live and virtual blue forces and opposing forces (OPFOR), and BCT response cells. They also coordinated for observer controller trainers (OC/T) from the MCTP, 1st Army Divisions East and West, and from the Directorate of Training and Doctrine, United States Army Aviation Center of Excellence to provide external evaluation of 3rd CAB mission command system operations and processes in a field environment. The 3rd ID's Division Artillery established their CP at the MCTC and deployed a battery of artillery to the field. The synchronized efforts of the supporting staff, MCTC, and CAB resulted in an exceptional training event that serves as a superb example of how a CAB can conduct tough, realistic, and effective home station training.

Integral to the exercise design was a live OPFOR that incorporated robust hybrid and near-peer threat capabilities. The simulation provided a varied and complex operational environment vital to the stimulation of all of the CAB's mission command information systems, including Blue Force Tracker, with live and simulation-generated information. This capability offered the division and CAB the opportunity to train all warfighting functions within the CAB's main CP and subordinate battalion CPs through a fully blended LVC training environment.

The OC/Ts provided an objective assessment by focusing observations and coaching on the CAB commander's training objectives that were based on the recently published standardized mission essential task list. The CAB commander selected air assault, attack, reconnaissance and security, joint air attack team (JAAT) operations, Gray Eagle and manned-unmanned teaming (MUM-T) in support of the division as the five key training events to support his eight training objectives consisting of: Reconnaissance, Security, JAAT, Battalion-size assault (in sector), Company-size assault (out of sector), Attack Support to division with Gray Eagle, and MUM-T.

The CAB executed three live air assaults, two live hasty attacks, a screen mission, and a deliberate attack mission in the division's

area of operations in addition to numerous virtual iterations of attack, reconnaissance, and aeromedical evacuation operations from an Aviation Combined Arms Tactical Trainer linked into the exercise. Live aeromedical evacuation, air movement, forward arming and refueling point operations, and tactical convoy operations were also executed. Mission command systems were employed at the CAB and battalion/squadron CP, tactical command post, and from the brigade's command aviation aircraft. In addition to frequency modulation and tactical satellite communications, the CAB leveraged CPOF and Force XXI Battle Command Brigade and Below Joint Capabilities to communicate missions, plans, and orders to subordinate elements. Additionally, the entire Warfighter Information Network-Tactical connected organizations and linked Joint Conflict and Tactical Simulation exercise information to the battalion level.



The Live, Virtual and Constructive Integrated Exercise Construct for FALCON FOCUS

AH-64D Longbow Apaches from 3-17 ARS-H execute JAAT with Marine F/A-18 Hornets and DIVARTY Howitzers on 21 MAY 2016. Photo Credit: SPC Scott Lindblom, 3rd CAB Public Affairs

The exercise control section and the CAB both used recently published doctrine to guide their training. Air assaults were planned and executed using Field Manual (FM) 3-04, *Army Aviation*; Army Techniques Publication (ATP) 3-04.1, Army Aviation Tactical Employment; FM 3-99, *Airborne and Air Assault Operations*; and unit standard operating procedures while attacks were conducted in accordance with tactics, techniques, and procedures (TTP) described in ATP 3-04.1. The application of relatively new doctrine speaks to the CAB's ability to adapt TTP in support of both Army Aviation core competencies and the Army core competencies of combined arms maneuver and wide area security.

FALCON FOCUS is an example of how a CAB may leverage home station training and maximize the use of time and resources. As a CP exercise that occurred relatively early in the CAB's training cycle, this 'walk' event highlighted areas of focus for future training in advance of a mission readiness exercise scheduled for October 2016. The systems and processes the CAB honed, to include mission command of three subordinate battalions, demonstrates how lethal and agile the brigade can be in decisive action. Whether tasking elements to directly support ground maneuver or deliberately engaging the enemy in the deep area using joint and combined assets, the CAB and its staff, executing across the range of Army Aviation's core competencies, provides the commander the flexibility, reach, and lethality to maintain relative advantage.

[1] Army Aviation Training Strategy, pg. 13, January 2016
[2] Ibid, pg. 1
[3] Ibid, pg. 9

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Acronym Reference

ATP - Army Training Publication
BCT - brigade combat team
CAB - combat aviation brigade
CP - command post
CPOF - command post of the future
CTC - Combat Training Center
FM - field manual
ID - Infantry Division
JAAT - joint air attack team
LVC - live, vertical and constructive
MCTC - mission command training complex
MUM-T - manned-unmanned team
OC/T - observer, controler-trainer
OPFOR - opposing force
TTP - tactics, techniques, and procedures

Major General Rudolph Ostovich III
Chief, Army Aviation Branch

Aviation Digest Archived Article September/October, 1990

Tough, Realistic Training

THE DEMOCRATIZATION of Warsaw Pact countries in Eastern Europe fostered the belief that the cold war has ended and the threat to our National security is significantly diminished. Recent events in the Persian Gulf confirm that defending our National interests abroad remains a formidable task.

We are tasked to defend our National interests with smaller armed forces—forces that are tasked to respond rapidly to world crises with an effective global reach. Our Army is such a force: well trained and equipped, ready to deploy, fight and win in combat at any intensity level, anywhere, anytime.

Tough, realistic training is the means by which we develop our warfighting proficiency to exercise the combined arms capability required in battle. Multiechelon, totally integrated, combined arms training is continuously stressed at all levels. Our training philosophy focuses on wartime mission tasks to ensure we train the way we intend to fight.

Army Aviation starts with the individual soldier and builds upon that foundation. Our goal is to produce a technically and tactically proficient soldier. In aviation, resident training is the principal source of initial individual training. The soldier must demonstrate proficiency before graduation. Upon arrival at the new unit, the soldier is trained to attain and sustain proficiency in mission-oriented tasks selected by his commander.

Commanders focus training based on their wartime mission. This focus, which we call "battle focus," is used to develop the unit's mission training plan (MTP). Critical tasks are selected from the MTP to develop a mission essential task list (METL). In the near future, METL will be incorporated into the aviator's aircrew training manual (ATM), which effectively transforms individual aviator tasks into realistic crew and multiship tactical training. The improved ATM training program, coupled with realistic live fire gunnery training established in TC 1140, will enhance our future warfighting effectiveness.

Unit training and assessment are often accomplished collectively with other units at combat training centers (CTCs), such as the National Training Center, Ft. Irwin, CA. U.S. forces train in the California desert for the kind of fight we are facing right now in the Persian Gulf. Army Aviation brigade commanders conduct *tough, realistic training* on hot, open, sandy terrain against opposing forces in fast-moving scenarios that could occur for real in the Middle East now. Tactical training against an enemy that fights back is an effective way to ensure combat readiness.

Today, computer-driven simulation technology provides us with another source of opposing forces: automated forces that challenge the best tacticians. Simulation network (SIMNET) is such a system. The SIMNET combines close combat tactical trainers to allow soldiers in simulators to train with or against each other on the same computerized battlefield. The aviation combined arms tactical trainer (AVCATT), an extension of SIMNET, will provide an unrestricted, fully integrated battlefield. AVCATT permits complete interaction with other members of the combined arms team, providing a realistic command and control management scenario to fight the AirLand Battle.

Army Aviation is training tougher and safer than ever before while operating sophisticated aircraft in a high-risk environment. Conducting this kind of training at night under night vision goggles (NVG) further increases our combat effectiveness. Using NVG proved to be the key factor in accident-free combat night operations in Panama—proof that *tough, realistic training* pays off. It was a clear case of picking the force most suited for the mission—the U.S. Army! Success didn't just happen—our soldiers *trained for success*!

ARAT

THE ARMY REPROGRAMING ANALYSIS TEAM:

A Quarter Century of Enabling Aircrew Survivability

By Mr. Jason M. Juliano

Survival in the operational environment depends on the ability of an aircrew's aviation survivability equipment (ASE) to quickly and accurately detect, classify, and respond to threats. However, with the potential of new threat systems, sudden changes in operating modes of known systems, or variations to threat tactics, techniques, or procedures in an actual or impending combat environment, who can an aviator turn to for the latest ASE mission solution to counter enemy air defense systems?

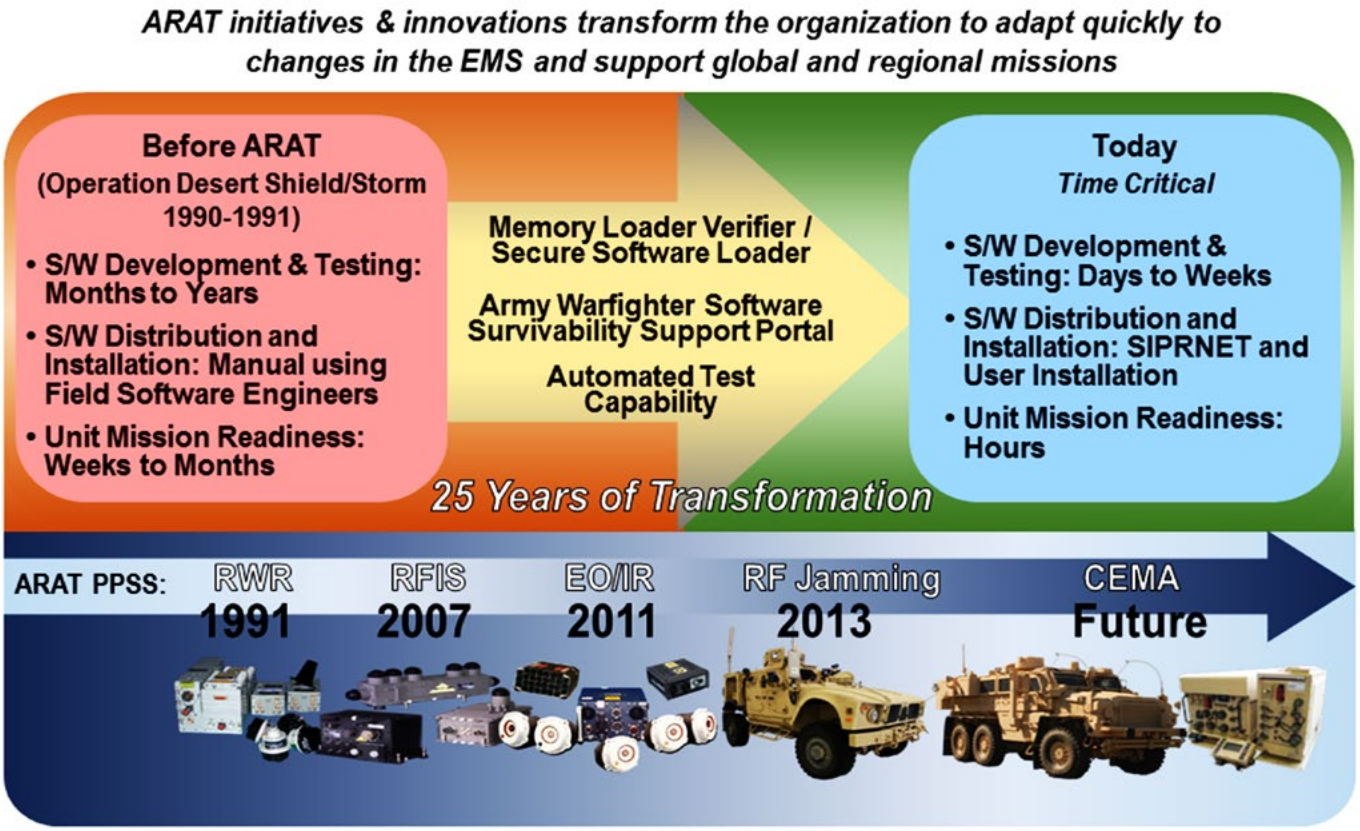
The answer to this challenging question rests with the Communication-Electronic Command's Software Engineering Center (SEC) Army Reprogramming Analysis Team (ARAT). Since 1991, the SEC ARAT has been providing unwavering support to aviators and, more recently, the ground electronic warfare (EW) community. Under the direction of Army Regulation 525-15, *Software Reprogramming For Cyber Electromagnetic Activities*, the SEC ARAT executes its mission as a Headquarters, Department of the Army mandated rapid software reprogramming (RSR) infrastructure that develops, delivers, and sustains ASE mission support products (MSP) (e.g., mission data sets with their mission software, user notes, and kneeboard cards). Formed in response to a Cold War gap in the Army's ability to respond effectively to threat changes, as well as important lessons learned during Operations Desert Shield and Desert Storm, the SEC ARAT faces, on a daily basis, the challenge of protecting globally responsive, regionally focused commanders and aviators who rely on ASE for mission success and protection.

Headquartered at Aberdeen Proving Ground, Maryland, with elements at six other locations across the United States, to include the U.S. Army Aviation Center of Excellence at Fort Rucker, Alabama, the SEC ARAT identifies and analyzes threats to aircrews. The SEC ARAT also develops and tests MSP to counter the threats, disseminates the MSP to aviators through secure means, and provides a reach-back means to assist aviation mission survivability officers (AMSO) and EW officers with their ASE concerns. Working collaboratively with the acquisition, intelligence, doctrine, and training communities, the SEC ARAT responds to U.S. Army Training and Doctrine Command (TRADOC) directed requirements that address priority threats to aircraft operating in TRADOC defined regions across the globe.

The SEC ARAT's normal mode of operation is to update MSP on a routine basis per TRADOC direction. However, if a TRADOC Capabilities Manager identifies a requirement in response to a sudden change in a region that has potential immediate and negative impacts on an ASE system's ability to detect, identify, and respond to a threat, the SEC ARAT will redirect its energy to its RSR mode of operation. This means that the SEC ARAT will shift resources and go into 24/7 operations to develop and deliver updated MSP to the aviator. The length of time to conduct an RSR depends on the complexity of the change(s) affecting a system, but the SEC ARAT significantly reduces its existing timelines to address the urgent requirement.

Essential to both ASE "routine" software reprogramming and RSR is direct Soldier involvement. During Operations Desert Storm and Desert Shield, aircrews had to wait for field service engineers to arrive

The SEC ARAT's Mission is to Support Soldiers Everywhere and at All Times



SEC ARAT's Transformation to Meet Commander's and Soldier's Needs

at their units to manually install updated mission software into their ASE. Today, through a continual focus on transformation and innovation, the ARAT has placed mission software installation in the hands of the AMSO and ASE maintainers. As shown in the graphic above, the SEC ARAT has significantly reduced ASE software development and distribution timelines, leading to faster mission readiness.

Tools available to aviators for mission software installation and mission readiness include:

- ARAT Warfighter Survivability Software Support Portal, a SIPRNet-based website through which the ARAT posts MSP that end users can download at the time and location of their choice

- ARAT Survivability Software Loader (ARATSSL) which consists of software and a USB cable that aviators use to install mission software via their unit's Aviation Mission Planning System computer

- Memory Loader/Verifier cable kit used in conjunction with the ARATSSL that allows aviators to install mission software into their ASE on the flight line

This triad of ARAT-developed applications and tools provides Army aviators with the ability to download and begin installing mission software on their systems, potentially within minutes of being notified of its availability.

While the SEC ARAT looks back on its two and a half decades of success, it is not losing sight of the future. As the Army transitions new ASE into its inventory, the SEC ARAT continues to evolve to ensure that the most current MSP and tools are available to the Army Aviator.

For more information on the SEC ARAT, ask your unit's AMSO or visit the SEC ARAT website at: https://www.arat.army.mil.

Jason M. Juliano is the ARAT Program Office at Aberdeen Proving Ground, MD. He assumed the position of Program Officer in November 2014.

Acronym Reference

AMSO - aviation mission survivability officer	**RF** - radio frequency
ARAT - Army Reprogramming Analysis Team	**RFIS** - Radar Frequency Interferometer System
ARATSSL - ARAT Survivability Software Loader	**RSR** - rapid software reprogramming
ASE - aviation survivabilty equipment	**RWR** - radar warning receiver
CEMA - cyber electromagnetic activities	**SEC** - Software Engineering Center
EO/IR - electro optical/ infrared	**SIPRNET** - Secret Internet Protocol Network
EW - electronic warfare	**S/W** - software
MSP - mission support products	**TRADOC** - Training and Doctrine Command
PPSS - post production software support	**USB** - universal serial bus

Army Aviation Tactical Mobility

By MAJ Karl M. Nilsen

Army Aviation enjoyed the luxury of maintaining an easily moveable force for decades. Power generation was needed only to supply the company and battalion with tactical lighting and basic communications. Archaic, analog methods served as the primary means to track the fight and provide command and control to advise leaders to make decisions and visualize the fight. Soldiers could quickly upload vital equipment such as radios, dry erase boards, trifolds, and easels into vehicles and/or aircraft, and transport the means to staff and command the fight from one tactical location to the next. The ability to seize, retain, and exploit the initiative remained inherent to the design of the unit which, therefore, mirrored doctrine. In contrast, modern aviation units possess equipment weighted heavy in automations, network support, and power requirements. These units are commanded by aviation leaders accustomed to conducting a static asymmetrical war in a digital environment, possessing high inertia in intellect, and highly sophisticated "field" gear.

The common tactical and operational objective has not changed over the last 20 years. Success against an adversary still necessitates the capability to seize, retain, and exploit the initiative. Modern leaders would argue that commanders maintain an advantaged position on initiative through digitized situational awareness, Blue Force Tracker (BFT), and the maintenance of fluid, reproducible products through software that enable the commander to visualize the battle. Reliance on these tools, however, can detriment the staff and commander to the same extent that it benefits the operational decisionmaking process. Staff personnel can easily grow over reliant on digital aids that need the set up and dismantling of complex digital and electrical networks, are susceptible to the rigors of the field environment, and are potential early causalities to electronic warfare. Therefore, this assessment recommends techniques to enhance tactical flexibility in tactical aviation formations. These recommendations include practicing critical and creative thinking at the battalion/company level, employing and assessing analog systems with the same scrutiny as their digital counterparts, and practicing company through battalion scalable mission command functionality.

Developing creative and critical thinking in young warfighters lacks the intuitive method of instruction of many areas of combat performance such as land navigation, weapons qualification, etc. Mastery of these thought methodologies assists the formation of organizations capable of making rapid and effective decisions. Regardless, commanders and staff leaders rarely receive a ready, cognitively adept formation upon assumption of command. Practicing troop leading procedures and the military decisionmaking process provides a logical method to cultivate critical thinking. Establishment and consistent evaluation of running estimates, identification and re-evaluation of valid metrics, consistent review of priority intelligence requirements and commander's critical information requirements tied to operational progress are doctrinal stipulations that provide excellent means to practice, assess, and learn critical thinking. Public assessment of these critically established metrics in company, staff, or battalion forums show the young leader what is behind the curtain and set a foundational basis for critical thought processes and linked decision making.

Creative thinking, however, requires the ingenuity indicative of its namesake. This thought methodology may prove most critical to teaching the young leader to see the battle and inevitably visualize it as a commander. Perhaps most importantly, that commander can, by extension, instill the staffing qualities and data collecting means and assessment consistent with a tactically mobile organization. Understanding and experiential correlation underpin the young aviator's ability to apply creative thinking. In the most elementary sense, utilization of course of action briefings applied in all operational and training decision cycles with associated decision matrices provide a method to force creative thinking. Substantial creative thinking development occurs when Army

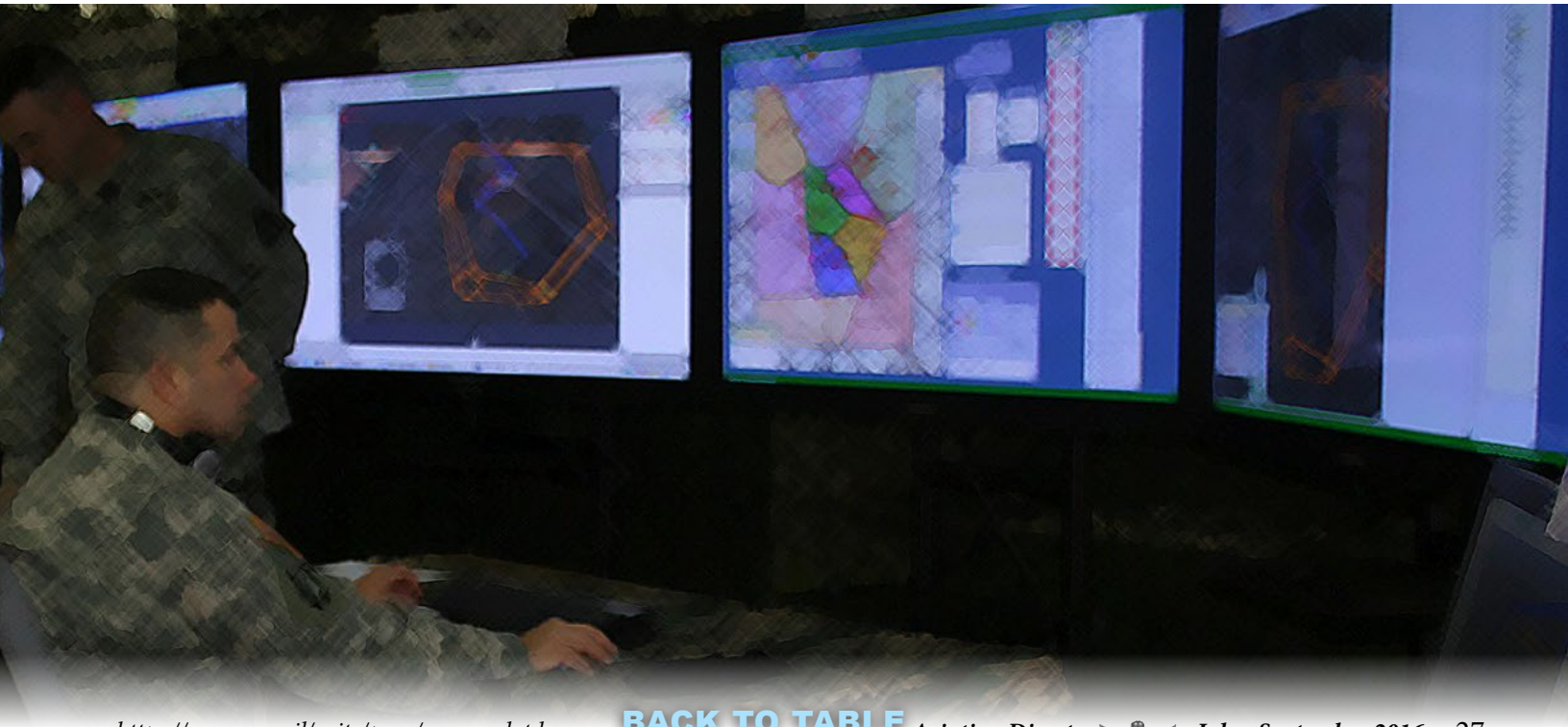
leaders can train in a well thought out vignette fashion partnered with sincere senior leader engagement.

An example of a vignette that may prove valid for developing creativity would be a lesson in terrain understanding. Terrain flight training in flight school and land navigation in the Aviation Basic Officer's Leadership Course do not logically link the creative and artistic approach to "fighting the terrain" needed by aviators in a high intensity conflict. A review of relevant aviation tactical tasks, followed by a brief of proposed enemy capabilities, coupled with a terrain walk following a map overlay build, and concluding with a collective helicopter flight over that very terrain can provide a correlational experience that can demonstrate the variety of methods to use the same terrain for different means to different degrees of success, i.e. variation associated with implementation of creativity. Vignettes that include pilot-in-command, air mission commander, and convoy commander duties create an experiential foundation that broaden the creative approaches and scope of thinking necessary to create tactical formations capable of higher order function in a mobile construct.

Another technique to develop an aviation unit capable of high performance in a transitional, advancing high intensity conflict environment is the incorporation of analog tracking devices. The current digital reality will remain a critical tool to share the common operating picture laterally and vertically across a command structure. Some units have elected to completely integrate and rely on the Command Post of the Future (CPOF), BFT, and the Advanced Battle Command Systems to develop and communicate staff estimates and implement/display the commander's vision. Rationale for that approach lies within leaders seeking staff efficiency, preventing duplicitous work for the staff in reporting and display, as well as limiting logic streams to flow through an application key to higher echelon battle tracking and meeting management. This logic is valid; however, the time involved in the break down and reassembly of these systems during the command post (CP) movement, equipment malfunctions and breakage, and simple system failures can significantly hamstring commanders and staff during the adjudication of a key decision in a fluid and hostile environment.

This necessitates the incorporation of analog tracking devices/tools, trackers, and displays that do not require network connection or power, but retain the exportability to function in any environment. Duplication must occur here, and through that process of duplication the staff sections can gain more situational awareness section-wide. Tracking friendly force movements across paper maps annotated with colored pins or placing significant activity markers on an area of interest on an acetate overlay provide a physical reminder to the young flight operations Soldier or battle non-commissioned officer of the unit tactical movements. Furthermore, regularly updated dry erase boards (that move easily, take up little space, and require no special handling instructions), at a glance, highlight the mission capability of unit aircraft, vehicles, or other key combat systems and improve the understanding of anyone questioning the status of unit equipment. Through that redundancy, sections can move from situational awareness towards understanding, while also retaining tracking means that survive the most careless equipment loader/unloader or inattentive generator refueler.

Lastly, effective aviation units demonstrate scalability in mission command and battle tracking. Frequent use of the company through brigade CP in the execution of all operations assists in the application of mission command scaling. Rotate the leaders in the CP to develop combinations of competence to expand and cultivate understanding from awareness. Few reduced command nodes employ a battalion S-4 or a company supply noncommissioned officer. More frequently, the CPs appear



as an exact duplication from doctrine or rely on a key senior personality or operations officer. Creative personnel application in this regard can expand the capability of a removed mission command node, reduce the quantity and size of operational seams, while keeping the commander ahead of the decision cycle, rather than reactionary to actions and reports misappropriated in analysis. Experimentation remains critical in this application, e.g. the establishment of a control group of desired outputs and capabilities through the rotation of personnel variables until the unit achieves the desired result.

High intensity conflict demands the flexibility and mobility of Army Aviation—units that currently exact mission command through digital systems requiring specific training that offer limited capability and remain highly reliant on network and electrical conditions to function (added battle field friction and organizational inertia). Recommendations to create or expand potential in a tactical/operational unit's ability to demonstrate mobility include the deliberate practice of encouraging critical and creative thinking at the company/battalion; employing and assessing analog systems with the same scrutiny as their digital counterparts; and third, practice company through battalion scalable mission command functionality. Through these methods, commanders can maintain a supporting cast that performs well under austere circumstances and build a staff with understanding built on shared awareness, and who are comfortable operating in the context of decentralized mission command. Near peer threats will conduct disruptive network and electrical attacks, destroy or disable equipment, and extinguish a percent of the force. Overreliance on sophisticated equipment and operating systems breeds failure when Army Aviation needs to perform with the utmost decision in the most rigorous circumstance. Furthermore, training in this method will better prepare a generation of young leaders comfortably accustomed to vying against an asymmetric threat in an evolving world of competitor states growing more and more equal in capability.

MAJ Karl Nilsen is currently assigned as the United States Army Pacific G33 Deputy Chief of Current Operations. MAJ Nilsen's previous assignments include deployments as a platoon leader (2005-2006) and then as a company commander (2008-2009) with the 4th Combat Aviation Brigade in support of Operation Iraqi Freedom; United States Embassy, Iraq in 2015-2016 in support of Foreign Military Sales – Aviation; and Trainer/Mentor, Joint Readiness Training Center, Fort Polk, LA. He has 15 years' service and is qualified in the OH-58A/C, AH-64D, and AH-64E aircraft.

Acronym Reference

BFT - Blue Force Tracker
CP - command post
CPOF - Command Post of the Future

Counseling Soldiers- Providing Opportunity to Grow

By SGM Martin J. Moreno

As a leader responsible for the important task of discussing the performance or guiding the career of other Soldiers, it is necessary to review the purpose, and most effective methods, of counseling. We need to stop occasionally and ask ourselves whether we, as counselors, are performing this critical function as well as we are possibly able. For instance, how can you make counseling work for you? Are we, as leaders, performing the right counseling at the right times? Or, how does "Old Counseling" change with the new non-commissioned officer efficiency rating system?

Before addressing the topic of counseling, I took some time to revisit Army Techniques Publication (ATP) 6-22.1, *The Counseling Process*. Although I feel confident in my ability to counsel Soldiers, I have not always followed the guidelines provided by the ATP to make the experience as formal as it should have been or to document the event as carefully as I should have. Throughout my career as a non-commissioned officer (NCO) responsible for Soldiers and their development, I probably did not provide the best counseling service to my Soldiers. I did not take the time to refine my counseling skills as well as I should have. I think these statements likely apply to the majority of NCOs that I have known who have developed bad counseling habits such as counseling only to meet dictated requirements or rigidly following a check sheet intended only to serve as a general guideline for the counseling session. On the other hand, there are those NCOs who understand the incredibly important utility of the counseling session to keep a wayward Soldier on track or to provide invaluable recommendations for the career progression of an especially talented Soldier. You decide where you fall. Those NCO leaders who take the "easy" route and do not offer the full services and intent of the counseling session to their Soldiers are passing bad habits to those Soldiers. These practices need to end if we want to develop Aviation professionals. We must put people first and that does not happen if the Soldiers under your watch do not have established guides, goals, and limits.

While counseling occurs at all levels, the chain of command reinforces the standards for its framework at every echelon. That raters and senior raters counsel their Soldiers on measurable expectations with regard to mission success and professional development is paramount to the development of the Aviation professional.

The obligation of a university is to make the student its most important asset by assisting the student's integration into the academic environment, providing every reasonable opportunity to the student to complete his studies, and to help place the student in his chosen career field. A university will help chart a student's path to success for multiple reasons. Some are: social obligation to educate and train the young, return on investment from existing alumni contributions, high graduation rates, and to encourage future alumni contributions. Similarly, the Army has an obligation to make it understood to the Soldier that he is the Army's most important asset. We have the obligation to integrate the new Soldier into the Army's way of life, train the Soldier to become a professional in his chosen field, mentor the Soldier throughout his development to improve his skills and enhance his professional development, and counsel the Soldier on a regular basis to keep him on course and on glide path. As military professionals, we become intensely mission focused. We frequently forget that the Soldier is an essential component of that mission.

How do you get the message across to the Soldier that they are important? While conducting an inspection of one of our organizations counseling records, I found that one platoon sergeant might rate upwards of 20 NCOs. This does not sound too bad until you understand that he has to invest time in planning each counseling session and then take the time to actually conduct the counseling session. If that platoon sergeant has allotted an hour for each counseling session, he is spending a minimum of 80 hours a year performing this supervisory responsibility. These counseling sessions only cover the

required quarterly counseling sessions, and exclude reception/integration, crisis, transition, or promotion counseling.

Now look at the senior rater for the same company who might senior rate upwards of 50 NCOs and perform counseling twice a year on those 50 Soldiers. Remember, the actual time spent in the counseling session does not include the time for preparation of the evaluation. Additionally, these are only NCOs, not the enlisted Soldiers that also require counseling. The time expended on these events is significant. The point is this - how does a rater or senior rater manage counseling if he does not have it scheduled? *Ad hoc* counseling sends a message to the rated Soldier that "it doesn't matter, it's not that important." Take time to create a schedule and follow it for the benefit of the Soldier and the organization. Commands mandate six-month training schedules and physical readiness training schedules but never make counseling schedules a priority until they become necessary through poor conduct or through command inspection requirements. Take time to develop Soldiers and prepare well thought out development plans for them. They deserve it.

Counseling Support Tools

When I arrived at a new duty station in 1992, my section sergeant took the time to discuss my future in the Army, my objectives, and my educational goals. He directed me to make an appointment with the education center and suggested that I consider getting my Federal Aviation Airframe and Powerplant License (A&P), "like the other guys." On his recommendation, I made an appointment with an education counselor who identified the importance of establishing long-range military and civilian goals. I was intent on becoming a career Soldier and gave little thought to any long-term civilian objectives; however, the counselor took the time to educate me on the importance of having different goals and how, if properly aligned, I could be successful in both arenas. Today, I have my A&P, an Associate's Degree in Applied Science, a Bachelor's Degree in Business, and a Master's Degree in business. I attained these goals because one person took the time to sit down with me and chart a path for success.

Three tools useful in charting, measuring, and recording a Soldier's progress are the Evaluation Entry System, the Army Career Tracker (ACT), and the Digital Training Management System (DTMS). I have found that many NCO leaders resist using these tools due, in part, to what I refer to as "digital atrophy." They do not completely understand or do not feel sufficiently confident with their knowledge of these systems because of the rapid pace at which the tools are developed and implemented. Additionally, senior leaders do not support the Army in establishing these systems of record as important.

Many leaders provide counseling in various fashions by employing experiences from past personal counseling events. Whether the counseling happens on a preprinted form or a napkin, scanning and uploading those documents will assist in ultimately understanding where a Soldier fits in the unit's mission, how his career progresses, or how his personal development plan will be met. The Evaluation Entry System's Counseling Management Report tool allows anyone within the rating chain to see the counseling sessions that have occurred and determine whether the supervisor has completed counseling in accordance with regulation. However, what goes into the counseling is a very different topic of debate.

Since the announcement of the new NCO Evaluation Report (NCOER), I have listened to many Soldiers/NCOs discuss the intricacies of writing the NCOER. I have always questioned the intent of "how to write the NCOER." Are we, as leaders, trying to write something about performance we expect to happen or are we summarizing the progress of the rated individual we have monitored through the rating period? For NCOs, sections IV (Performance Goals and Expectations) and V (Performance Evaluation, Professionalism, Attributes, and Competencies) on Department of the Army (DA) Form 2166-9-1A, *NCO Evaluation Report Support Form* are a discussion between the rated Soldier and the rater. It is important to understand that it is a discussion because, too often, we allow the Soldier to dictate what might go in these blocks. As a leader, you should provide the rated Soldier with a potential list of objectives related to achieving excellence in your unit. The objectives should align with daily duties and scope, areas of special emphasis, and appointed duties. Each task should be quantifiable and have clear attainable objectives. For instance; an additional duty of Key Custodian should

have an objective of maintaining 100% accountability of assigned keys and obtaining a "commendable" or better rating on anticipated inspections. The rater should indicate improvement or degradation of the duty during each rating period. The rated NCO should know exactly where he stands in the performance of his assigned duties. The measurement of those objectives will write the evaluation report. We need to report what is accurate for the health of the organization and the Army.

The ACT is an emerging tool that is available to the Soldier to track individual training, education objectives, and monitor career development. Once in widespread use, ACT will be a great tool for Soldier and mentor/supervisor interaction. Supervisors should be encouraged to set down at the earliest point possible in his Soldier's careers to map out a path to success. How convenient it would be for a first sergeant to see these individual development plans when making decisions on human resource management. If we implemented the ACT early in the Soldier's career, no one would have an excuse for not populating Part IV, Performance Goals and Expectations on the DA Form 2166-9-1A, NCO Evaluation Report Support Form.

The third tool available for counseling is the DTMS. The DTMS provides leaders with a perspective on relative training in accomplishing the unit's mission essential task list. This tool can help a supervisor determine whether his Soldiers are meeting the required objectives established during their counseling sessions. Additionally, DTMS along with the Digital Job Book found within the Army ATN will allow leaders to see where Soldiers are in tracking their professional military experience. Also, leaders will validate a Soldiers training with regard to their Individual Critical Task List produced by the proponent center of excellence. This task list will standardize the type of training a Soldier needs to become a professional in his chosen field. The DTMS confirms that, contrary to popular belief, the institution does not make the expert; it is the organization that develops the expert.

Providing Opportunity to Grow

Creating opportunity where there is none is probably one of the most difficult issues today as we are faced with constant rotations to the combat training centers, supporting combat operations, and required to complete more mandated training than is manageable. Deploying an organization is probably old hat by now. So where is the opportunity beyond those already mentioned? The Army Aviation Branch has become increasingly dependent on contract maintenance to the point where we have tarnished the trust in our own maintenance support personnel. In an era of shrinking resources, we have seen fit to grow maintenance and other contracts to compensate for a downsized military. We understand that our leaders are adapting to a tough environment; however, the pendulum has reached the apex as we continue to drawdown, contend with decreased funding, and restructure once again in order to remain relevant as a Branch.

There are opportunities to encourage professional growth. Leaders can choose to create Aviation Academies within their footprint to allow Soldiers and NCOs to grow through cross training geared toward certification in their profession. Unit commanders can leverage the Federal Aviation Administration's (FAA) Joint Service Aviation Maintenance Technician Certification Council A & P Program, managed for Army Aviation

professionals by the 128th Aviation Brigade. The program provides various training valuable in building a foundation in aviation knowledge and paves a path to certification with no additional cost to the Soldier or the unit. Additionally, combat aviation brigade commanders can establish free written exams within their footprint for all aviation military occupational specialties (MOS) (aviators included) provided by the FAA. I encourage command teams interested to contact the 128th Aviation Brigade for assistance in establishing this capability for Soldiers within their units. Creating these academies for soldiers will allow for more training applicable to their career field, provide more learning opportunities, and build confidence in their abilities.

Start Earlier

Why do we have such a great turnover with the Utility Helicopter Repairer MOS (15T)? Although there are many individual considerations, I can say, from experience, that the opportunity to develop beyond a parts replacer or a door gunner is very limited. Unfortunately, if you are good at your job, your leaders are less likely to allow you to do what you desire to do to improve yourself. Thus the exodus.

Jack Welch, former Chief Executive Officer of General Electric, believes that employees can be broken down into three performance groups. Welsh believes that the top 20% of people should be treated like stars. "Make them feel loved, hug them, give them cash, give them rewards in the soul and wallet. Do everything for them. For the middle 70%, show them what they need to do to get in the top 20%. For the bottom 10%, tell them why they should move on. Do it over a year or so. Tell them what their shortfalls are, tell them they're in the bottom 10%, don't give them a raise, and ask them to leave. Tell them 'Over the next several months, [we'll] work together to get you in the right place."

We in the Army Aviation enterprise need to take an active role in developing future war fighters sooner than later, because catch-up training in the institution is counterproductive. We can change the branch through effective communication of expectations in counseling at all levels - and it begins at the top.

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Acronym Reference

ACT - Army Career Tracker
ATP - Army Techniques Publication
A&P - Airframe and Powerplant License
DA - Depatment of the Army
DTMS - Digital Training Management System
FAA - Federal Aviation Administration
MOS - military occupational specialty
NCO - non-commissioned officer
NCOER - NCO Evaluation Report

The Expeditionary Mindset: ONE COMMANDER'S PERSPECTIVE

"An Officer who doesn't know his communication and supply as well as his tactics is totally useless"
- General George S. Patton

By CPT Thomas C. Rice

For the last decade, the United States Army has continually deployed in some form or fashion to Iraq and/or Afghanistan. Throughout this process, young noncommissioned officers and officers developed the skills required to deploy a unit and then redeploy. As major engagements end, those opportunities presented during the last decade will dwindle. This presents a problem for the United States Army in that leaders at higher levels of command assume that those at the company level have the expertise to conduct deployment operations if the situation requires it. This is a dangerous assumption as evidenced by the now year-old statistics from the 4th Infantry Brigade Combat Team (IBCT), aligned under the United States Africa Command in 2014, which showed that 74% of the current E-4 and below population had never deployed. Within the junior officer ranks, the statistics were slightly better in that 33% of the population have not deployed. Both of these statistics can be expected to increase leaving units ill prepared to deploy should the need arise. Furthermore, the individuals who have not deployed will soon make up a majority of the ranks of the noncommissioned officers and company grade officers within the Army. True, units may codify some of these lessons learned, but nothing replaces complex situations faced in real-world environments. Regardless, the overall readiness of current units exercised through deployment-like situations is lost unless a new approach, such as the regionally aligned forces model, is accepted. Hence, assignments, such as regionally aligned forces, allow units to reinforce the readiness of the Army by preparing future leaders to execute mission command at higher levels in other situations.

In June 2014, A/1-28 Infantry Regiment faced a unique problem set in preparation for the execution of Western Accord in Senegal, Africa. This problem set asked, "How do we deploy a company from Fort Riley, Kansas to Senegal and operate in an austere environment while maintaining communication, engaging with host nation forces, and conducting training that enhances our mission readiness?" The company was not alone in this undertaking in that brigade staff, reservists, national guardsmen, Marines, and other government agencies came together to accomplish the mission. A/1-28 Infantry Regiment provided the majority of the Soldiers on ground for the operation and the majority of the leadership for the deployment. After identifying the challenge, the company leadership reduced it to a simple question that fueled the training process from collective training to actual execution, namely, how do we build the skills congruent with an expeditionary mindset?" This expeditionary mindset was not clearly defined within Army doctrine but, after collaborating with other units, we arrived at the conclusion that an expeditionary mindset is one in which the unit may deploy anywhere in the world to accomplish a variety of missions. Additionally, it was determined that in order to prepare and establish an expeditionary mindset, our readiness would have to increase. As General Mark Milley, former Commanding General of Forces Command, stated at the 2014 Association of the United States Army conference, "Our Number One task is readiness; and, it is not just readiness according to some [training] cycle. Its readiness now, because we have no earthly idea what will happen a month or two from now." Most Army units do not understand this concept unless assigned a mission which forces them to practice this readiness. Granted the combat training centers (CTC) stress readiness. Yet, units will only go to a CTC once every two years or if assigned to a mission. Regionally aligned units, though, are afforded the opportunity to practice readiness on a continual basis over the course of their alignment and actually attain the proficiency to deploy anywhere in the world on short notice. The question then becomes, "What skills are required to develop this readiness which facilitates rapid deployment worldwide?" These skills are those developed prior to a CTC rotation and then practiced again leading up to an actual deployment. The primary focus of the unit becomes the tactical skills, such as offense and defense. The other aspects of the rotation such as the administrative and medical preparation, while a significant component of readiness, become more of a checklist of items to accomplish. Without the requirement to deploy for CTC rotations, these many small, but important administrative components

of readiness would likely never become a focus of the unit.

Within the regionally aligned forces model, leaders have to ensure their formations are immediately available to deploy due to the unpredictable nature of mission requirements. Another aspect of readiness focuses on the specialized training for select individuals that are required to move the unit from one location to another. These include unit movement officers, hazard material officers, and other individuals with specialized skills that perform critical unit functions during the alignment. These skills ensure the unit's success in moving from one area of the world to the next and create experiences for those individuals that will make them better leaders in the future.

The final aspect of readiness focuses on the skills required to understand and communicate with the host nation forces in regions that the unit may deploy within their alignment. These skills center on providing the unit with the cultural understanding needed for upcoming missions. The 4th IBCT accomplished this through a multiple step program that encompassed a variety of resources. One program, the Academic Preparation and Education Program (APEP) or Dragon University, sought to prepare individual Soldiers by providing them with intelligence updates on the region, history of the region and its people, basic language familiarization, host nation armies familiarization, and key leader engagement rehearsals. This program, spread out over two weeks, laid the foundation for other programs to build upon and provided a base from which to build the other aspects of readiness. Within APEP, the 4th IBCT brought in local experts from Kansas State University and Fort Leavenworth who shared their experiences and knowledge. This cultural understanding manifested itself during Western Accord by A/1-28 Infantry Regiment Soldiers living with Soldiers from Burkina Faso and watching the U.S. vs. Ghana World Cup Soccer game with an engineer platoon from Ghana. These were not forced opportunities, but ones that came naturally because Soldiers felt comfortable with these host nation forces. This comfort stemmed from the cultural training conducted at home station prior to the deployment. Native speakers were instrumental to the overall success of the mission. Formalized language training to all unit personnel takes away from readiness due to the complexities and the length of time required to learn a new language, consequently, the best solution was to utilize those who already possessed the necessary skills. It would be beneficial to units aligned with the Army theater commands to encourage their Soldiers to study any language within the command's area of operation.

Finally, training with non-standard weapons, improvised explosive device defeat, high frequency radios, and other systems common to the theater's area of operations allowed the Soldiers to exercise skills not trained or exercised at CTC rotations. Each of these theater focused areas of training require further refinement but without the external stressor of the regionally aligned deployment, units would struggle when alerted to prepare for a deployment.

The end result of the train up for regionally aligned forces and the quest for readiness is that each situation becomes a leadership laboratory focused on the noncommissioned officer and junior officers that otherwise would not be trained in these skills while preparing for a CTC rotation. The regionally aligned forces model provides real world experiences that demand innovative, adaptive, and creative thinkers. These thinkers fit the model of what our Army demands in mission command. Hence, the regionally aligned forces model reinforces the readiness of the Army by preparing future leaders to execute mission command at higher levels in other situations. For instance, during Western Accord, A/1-28 Infantry Regiment deployed a company to Senegal, conducted a platoon live fire on unknown terrain with a platoon leader who had never conducted a platoon live fire before, and then integrated host nation units into that same live fire exercise while overcoming differences in tactics and languages. This experience gained further reinforcement by incorporating more host nation armies together and conducting a company situational training exercise with a host nation commander in charge of the operation. Thus, the regionally aligned forces model supports the Army by ensuring that the future leaders of the Army continue to execute agile and adaptive solutions to unique problems while increasing overall readiness and executing an expeditionary mindset. This investment in the future of the Army ensures that future noncommissioned officers and company grade officers are prepared to understand the intricacies concerning sustainment, communication, and deployment operations that are essential to winning our nation's wars.

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Acronym Reference

APEP - Academic Preparation and Education Program
IBCT - Infantry Brigade Combat Team
CTC - combat training center

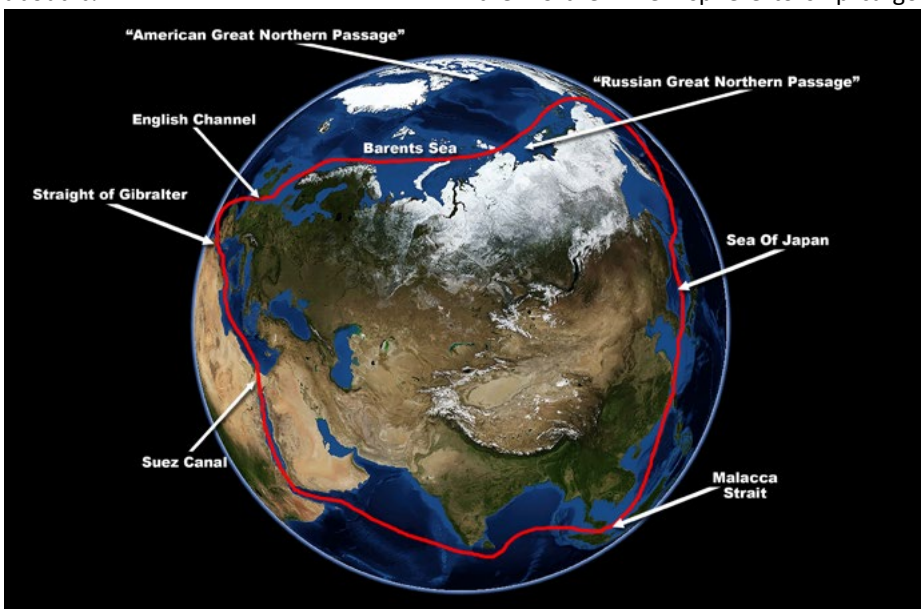
Arctic Summit

"By 2025, the Arctic waters are to be patrolled by a squadron of next-generation stealthy PAK DA [Russian] bombers."

~ Mark Galeotti, Russia expert, New York University

By MAJ Eric Comette

From expert statements like the one above coupled with the recent massive increase in Russian military buildup in the Arctic, as well as from announcements within Russia herself, it is clear that Moscow has plans for the Arctic. This Russian Arctic activity stirs questions; namely, why is Russia doing this, and what—if anything—will we do about it?



So, why does Russia have plans that necessitate repopulating the Arctic with military bases designed for long-term habitation and patrolling the Arctic waters with stealthy bombers? The answer is simple; ice melts at thirty-three degrees. Arctic warming is occurring more rapidly than in any other place on the planet. As a result, the sea ice that blocked routes like the Great Northern Passage from our continental ancestors is now melting away and opening new sea lanes to the world.

Between 2007 and 2012, satellites recorded more Arctic sea ice melting than they ever have since space-based ice observation began in 1979. Having routes like the Great Northern Passage finally open will allow trading nations in the Northern hemisphere to ship cargo between the Atlantic and Pacific oceans via a much shorter sea route. Shipping destined for Hamburg, Germany from Shanghai, China while using a Northern passage sea lane instead of a route traversing the Suez Canal will enjoy a trip thirty percent shorter in waters relatively devoid of pirates.[1] Consequentially, those who regulate and fund that trip will also enjoy savings.

To take advantage of this new Northern Passage, Russia is not only moving to guard her interests on, around, and under this freshly unveiled sea lane with its access to natural resources, but to control it all as well. However, Russia is not the only country with economic and strategic interests in the Arctic. The United States, Canada, Denmark—whose territory includes Greenland—and Norway all stand to benefit greatly from the Arctic waters being open for shipping, commercialization, and energy production.

Shipping cargo through the Arctic will be very lucrative for the government that controls and taxes it. However, there is also extreme value to be had/controlled/taxed far beneath the cargo laden hulls floating above the Arctic sea floor. According to the U.S. Geological Survey, there is one quarter of the entire planet's undiscovered recoverable petroleum in the Arctic, over eighty percent of which is offshore. It also says, "The extensive Arctic continental shelves may constitute the geographically largest unexplored prospective area for petroleum remaining on Earth." It is estimated that thirty percent of planet Earth's natural gas, twenty percent of her liquefied natural gas, and thirteen percent of all her oil can be found, recovered and used by countries that have access to the Arctic and the means to take its resources.[2]

Unless Russia's plans also include breaking the United Nation's Convention on the Law of the Sea (1982) that established freedom of navigation rights, set territorial sea boundaries twelve

miles offshore, exclusive economic zones up to 200 miles offshore, and established rules for extending continental shelf rights up to 350 miles offshore, her buildup in the Arctic suggests that Moscow believes someone else will. "We'll be restoring airfields, reviving Soviet-era hydro-meteorological services, and deploying the naval means to convoy ships and defend Russia's economic zone of interests," said Viktor Litovkin, military affairs editor of the Nezavisimaya Gazeta newspaper. Russia plans to reopen ten Arctic search-and-rescue stations, sixteen deep-water ports, thirteen airfields, and ten air-defense radar stations.[3]

Today, Russia is better equipped for Arctic buildup and operations than any of the other countries listed above. The United States has only two heavy and one medium icebreaker ship while the U.S. Coast Guard has said that the U.S. needs at least three of each to accomplish its statutory missions. Canada has six icebreakers. Russia, on the other hand, has over thirty icebreaking ships and is the only country in the world to operate a nuclear-powered icebreaker fleet. The Russian nuclear-powered icebreaker Arktika was the first surface ship in history to reach the North Pole. Militarily, Russia's Northern Fleet has nearly eighty ships including thirty-five submarines and six missile cruisers. This constitutes one third of Russia's total naval power.[4]

The United States and partner countries are not sitting idly by while Russia repopulates the Arctic with military bases. The U.S. has significant geopolitical and economic interests in the Arctic and is taking steps not only to protect them but also to ensure that the Arctic is preserved, shared, and protected for all who have interests in or around it. Reflecting rising concerns from within the Arctic Council (formed in 1991), which includes Russia, there have been calls for the council to move beyond environmental issues and become a forum to address defense and security matters. Rob Huebert of the Canadian Defense and Foreign Affairs Institute comments, "The militaries of most Arctic states are taking on new and expanded roles in the region that go beyond their traditional responsibilities, which may create friction in the region." It is easy to see that tensions are building in the Arctic.

The U.S. National Strategy for the Arctic Region outlines our strategic priorities including advancing U.S. security interests, pursuing responsible stewardship, and strengthening international cooperation. It also sets an aggressive agenda for Arctic oil, gas, and mineral reserves exploitation as well as recommending enhancing national defense, law enforcement, navigation systems, environmental response, and search and rescue capabilities in the Arctic. In concert with the National Strategy for the Arctic, Congressman Don Young (R-Alaska) has called for "extensive Arctic training" to enable the U.S. to project power in the region.

Moreover, the U.S. is increasing cooperation with Canada to enhance its presence and security in the Arctic. Both countries signed the Tri-Command Framework for Arctic Cooperation which merges the United States Northern Command, the Canadian Joint Operations Command, and the North American Aerospace Defense Command. The Tri-Command Framework's purpose is to "promote enhanced military cooperation in the Arctic and identify specific areas of potential Tri-Command cooperation in the preparation for and conduct of safety, security, and defense operations." The Arctic is set to become an even more important part of North American perimeter security.[5]

Adding to the U.S. Arctic presence and power projection, specifically the Army's, is the 1-25th Attack Reconnaissance Battalion (ARB) flying and maintaining the AH-64 Apache in the extreme conditions found in the Arctic. Based in Fairbanks, Alaska, the 1-25th ARB is poised to lead the way for Army attack aviation in some of the most harsh and unforgiving conditions the military operates in. The lessons the 1-25th learns in Alaska will be extremely valuable to any unit called to deploy or relocate to the Arctic. Learning on the job, so to speak, should conflict arise against a power that is superior in Arctic equipage, training, and presence is a situation that the U.S. must never find herself in.

The 1-25th ARB is currently learning Arctic lessons that the rest of Army Aviation may need to employ at a moment's notice sometime in the future; and, though never to wish for it, that future could be near. As a mechanism to ascertain, categorize, and disseminate lessons, the 1-25th ARB and her sister units are learning the hard way. In order to gain an understanding of the systemic issues related to aviation operations in the Arctic that will enhance U.S. Army Aviation capabilities, the U.S. Army Aviation Center of Excellence (USAACE), working in close concert with the 1-25th ARB, formed a lessons learned collection team consisting of representatives from a variety of Army Aviation agencies to travel to Fort Wainwright, Alaska in February 2016.
Upon arrival to Fort Wainwright, the collection team consisting of members representing the USAACE's Department of Training and Doctrine Aviation Mission

COL Blake Alexander welcomes the Arctic Summit lessons learned collectors to Fort Wainwright, AK

Survivability Branch, the Directorate of Evaluation and Standardization, Training and Doctrine Command (TRADOC) Capabilities Manager (TCM) for Reconnaissance and Attack, TCM Utility, TCM Cargo, Program Manager (PM) Apache, PM Blackhawk, the Concepts and Requirement Directorate (CRD) Aviation Logistics, CRD Army Combat Information Systems, the Program Director Medical Evacuation, and representatives from Boeing and Lockheed Martin received numerous Arctic related briefings from the unit. In addition to unit facilitated briefings, the agencies conducted collection sessions with unit personnel, toured the facilities and were also treated to an orientation flight/remote drop off that truly conveyed the impact of the Arctic environment on all aspects of operations.

Upon the collection team's return, the results of the Arctic Summit lessons learned collection were packaged into various reports and articles for further action and study as well as possible incorporation into Army Aviation training and doctrine. As a result, Army Aviation now stands better fortified to confront the challenges offered by the Arctic and deliver steel colder than any Arctic winter to such adversaries that dare test her will.

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Major Eric Comette is a graduate of the University of South Carolina with a degree in Marine Science (Marine Geography and Remote Sensing) and is currently the Cyber and Electromagnetic Affects Staff Integration Officer for the Directorate of Training and Doctrine at the U.S. Army Aviation Center of Excellence. He has served as the Brigade Electronic Warfare Officer (EWO) for 1st Brigade, 3rd Infantry Division during their deployment to Regional Command –South, Afghanistan. He has prior service in the U.S. Navy as a Flight Officer in the P-3C Orion Anti-Submarine and Surveillance aircraft. He was a member of Joint Counter-Radio Controlled Improvised Explosive Device Electronic Warfare Composite Squadron One in Iraq augmented to the Army as a land-based EWO in 2006 through 2007. He has deployed to or flown detachment missions from Afghanistan, Iraq, El Salvador, Sicily, Iceland, Norway, Uganda, Algeria, Mali, Scotland, Spain, Greece and various other locations.

Acronym Reference

ARB - attack reconnaissance battalion	**TCM** - TRADOC capabilities manager
CRD - Concepts and Requirement Directorate	**TRADOC** - Training and Doctrine Command
PM - program manager	**USAACE** - U.S. Army Aviation Center of Excellence

START AVIATOR TRAINING

the Old-Fashioned Way

By MAJ John Q. Bolton

I prayed that I might not be posted to a training squadron. – C.S. Lewis

The Army Aviation Center of Excellence (USAACE) has changed the aircraft used for Initial Entry Rotary Wing (IERW) training from the TH-67 to the LUH-72 Lakota. Though the LUH was not designed as a trainer, it replaced the venerable TH-67, which had been Army Aviation's primary trainer since the 1980s.[1] According to the 110th Aviation Brigade, the LUH will improve training because, "A lot of the instrumentation crosses over and systems management [in the LUH] is much better this way, as is habit transfer when they go to war-fighting helicopters."[2] While the LUH resembles advanced Army aircraft in terms of mechanical systems and avionics, this may not necessarily result in positive habit transfer. Airmanship does not derive solely from instrumentation or procedures. This is a trend within the American military; we often confuse technology for understanding. In doing so, we forget that thorough individual training is the basis for developing unit competence.

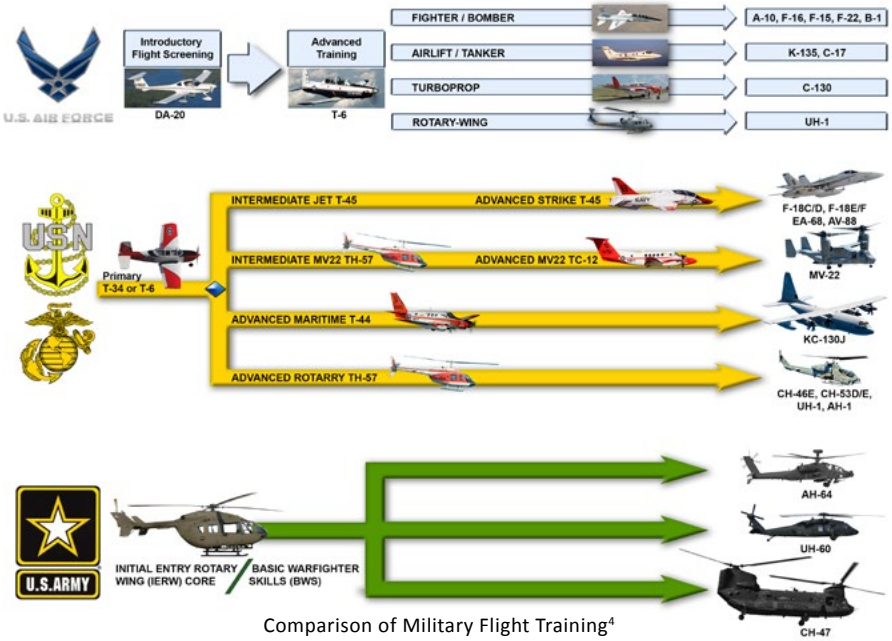
This article argues that while the LUH is a good place for Army Aviators to begin ***rotary-wing*** flight training, ***the proper place for new aviators to start primary flight training is in a simple, fixed-wing trainer*** like the C-172 or Diamond DA-20. In addition to saving money, requiring Army Aviators to go through a fixed-wing (FW) training program would reap training dividends in several ways. Learning basic airmanship, flight procedures, and radio operations under less demanding conditions of a basic, uncomplicated FW trainer would enhance the rotary-wing (RW) specific training aviators receive. If a junior aviator is already comfortable with traffic avoidance, understanding radio procedures, and basic airmanship, he is more primed for advanced instruction. This is the training methodology adopted by the other services, commercial aviation, and advocated by general aviation experts like Rod Machado.

While the goal of Flight School 21 (FSXXI) is producing helicopter pilots, the methodology of starting in a complex helicopter is questionable. Army Aviators should start in a FW trainer before moving to helicopter training. While moving from FW to RW aircraft would require a transition, the challenge is exaggerated; airmanship is not platform-specific and less so if a pilot has a solid grasp of the basics. Concentrating on flying fundamentals—stick and rudder skills—creates aviators better prepared to operate complex aircraft and, to borrow a phrase from the Army Operating Concept, "fight and win in a complex world." Focusing on skills, not aircraft, instrumentation, or technology, enabled World War II (WWII) - era Army Air Corps pilots to change aircraft with little more than a class on starting the engine.[3]

Flight Training in Other Services

The Army is the only military service that does not begin pilot training in a basic training aircraft. Naval Aviators begin training in the T-6 Texan for nearly a year before moving on to more advanced aircraft in accordance with their track (strike, transport, helicopter, etc.). They then fly at least one more training aircraft before their designated aircraft and earning their wings.

The Air Force goes a step further by screening candidates before flight training. USAF pilot candidates participate in a 40-day program



Comparison of Military Flight Training[4]

called Introductory Flight Screening (IFS). During IFS, civilian instructors conduct basic flight training using the Diamond DA-20, a two-seat light aircraft. This program screens upwards of 1,700 candidates annually.[5] Only after completing 25 flight hours and a check ride can prospective pilots move on to more advanced aircraft.

Figure 2. The Air Force begins flight training using the two-seat Diamond DA-20.[6]

Figure3. The original Army Aviation trainer, an L-19, was first used in 1950s.[7] It was a modified Cessna 170.

The Navy and Air Force flight training programs follow historical paradigms. During WWII "the American system of training held that a fledging pilot was incapable of handling high-performance places during the early stages of his career, so he moved carefully and systematically from simpler to more demanding aircraft and maneuvers."[8] Army Air Force pilots started in biplanes before progressing to primary training in monoplanes, then advanced training in the P-40 and AT-11. Only then did pilots progress to final training in combat aircraft.[9] In fact, even amid war-time pressure to produce pilots quickly, efforts to incorporate advanced aircraft into training earlier were canceled because rushed training made worse pilots.[10] The Army continued using FW trainers into the 1960s. It was only after the 1968 Johnson-McConnell Agreement gave all FW aircraft to the Air Force, while giving the Army free reign over helicopters, that we adopted helicopter-only training.[11]

We tend to think of military strength in terms of wonder weapons that are in reality mechanistic solutions ... Growing operating costs have overwhelmed the savings accrued from the significant long-term reductions in personnel and force structure.

- Chuck Spinney,
Defense Analyst

Benefits of Simple Trainers

The rationale for starting flight training in simple FW aircraft has little to do with the composition of aircraft fleets and everything to do with the quality of training. There are three benefits. First, putting prospective aviators into simpler aircraft allows instructors to determine flaws in airmanship—or suitability for further training—much earlier and much cheaper. Second, this methodology greatly reduces the opportunity cost of future flight training, particularly if a candidate does not meet criteria early. Third, learning the basics thoroughly, without the complication or distraction of advanced avionics and multiple engines, reduces stress when junior aviators transition to complex aircraft. In other words, pilots who are well-trained in basic aircraft perform better when upgrading.[12]

Cost is the most obvious benefit when comparing FW trainers to helicopters. FW trainers measure hourly rates in hundreds, not thousands of dollars. Unit cost is also substantially lower. Fixed-wing trainer avionics are comparable to modern aircraft; in fact, the Cirrus SR-22 and Cessna C172S often have digital displays, coupled autopilots, and are fully IFR.

However, simple aircraft have other advantages. Their systems and airframes are rugged. Complexity results in down time, no matter how well aircraft are maintained. In a training environment with multiple iterations of students every day, every aircraft is critical.

Training aircraft are forgiving to the new student, shallowing the learning curve. Students trained in stalls and slow flight in FW aircraft will understand the aerodynamic processes inherent in RW flight in ways that helicopter-only students will not. Trainers teach the basics well because they are designed to do so. It is axiomatic that aircraft designed for specific purposes are better suited to that task than multi-role aircraft.[13]

Given the importance of training and the amount of money spent on it, the aircraft used should be well suited. As the best means of training pilots is actual flight hours, we must aim to give trainees the maximum amount. FW trainers accomplish this goal.

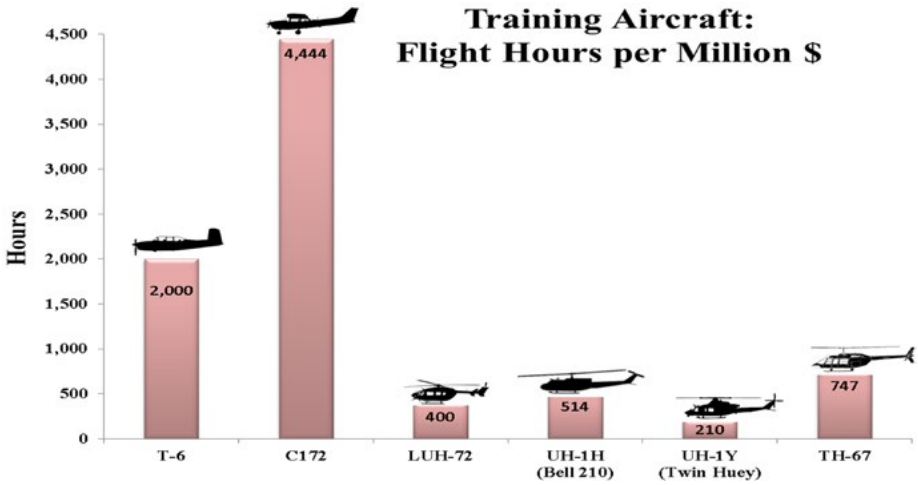
The only thing resembling a certainty about future military contingencies is that we are likely to face threats we do not now foresee ... the common-sense approach [is to] develop forces and strategies that give us the greatest possible capacity to adapt to whatever the future brings.

-James Fallows,
national correspondent for The Atlantic Monthly

Training at Ft. Rucker

From 2005-2007, USAACE adopted a new flight training regime. Flight School 21 increased cost between $60k and $200k per aviator but gave each graduate significantly more time in their primary aircraft.[14] The intent of FSXXI is to produce Readiness Level (RL) 2 equivalent aviators, by having Fort Rucker, rather than operational units, bear additional training expense. Qualitatively, FSXXI meets this goal.[15]

Now Fort Rucker has adopted the LUH as its training platform; a move that gives junior aviators a taste of the multiengine, advanced airframes they will eventually fly. Of course, training in more advanced (more



The LUH-72 is a capable aircraft, but at $5 million each and costs over and $2,500 per hour, it is a better option for advanced, not primary, training.[16]

expensive) aircraft comes with limitations. Most noticeably for helicopter pilots is the lack of touchdown autorotations in the LUH.[17] The LUH also comes with financial cost; no other service or civilian program teaches students to hover at $3,000 per hour. Additionally, Army students will now miss perhaps the most important element of flight training: the student solo. Given the cost of the LUH and the limited helicopter experience of students, not allowing solos arguably makes sense. However, solos are critical for instilling pilot responsibility, confidence, and proficiency. Taking away the instructor in a structured environment not only helps students realize their own skills and potential, it helps them strive for the next level of aviator proficiency. The intrinsic value of solo flight is acknowledged in civilian flight training, where pre-check ride private pilots must have at least 10 solo flight hours.[18] Giving junior aviators the keys to a safe, reliable, and cheap trainer is an easy way to incorporate solos into Army flight training.

Various civilian aircraft are used throughout the world as primary trainers. Aircraft like the Cessna 172, Cirrus SR-22, and others are simple, reliable, and inexpensive. The LUH-72, on the other hand, is primarily a utility helicopter, not a trainer.[20] This creates several problems. The aircraft is overpriced and overly complicated for initial flight training. Two engines, advanced avionics, and intricate flight control systems intimidate a first-time user, even with experience in a simulator. However, the LUH is still a good choice for ***primary RW*** training because it is relatively cheap (for a helicpoter) and its avionics and aircraft systems **make it a logical intermediary** between a simple, FW trainer and the AH-64D/E, UH-60M, or CH-47F.

Figure 7 & 8. The Cessna 172 is a simple, reliable, American-made primary trainer that utilizes a glass cockpit for a fraction of the cost of helicopters.[19]

Focus on the Basics

Technology has a place in training, but we should be careful of its limitations. A case study from the Gulf War illustrates the fiction of overwhelming technology making all the difference. Using data from engagements between VII Corps and the Republican Guard, Stephen Biddle showed that the causative factor in most engagements was the individual and collective skill of American units.[21] In short, training, not FLIR, GPS, or communication technology, carried the day; technology only served to exacerbate the difference of competence and collective proficiency between American and Iraqi units.

Our fascination with technology often results in "expensive and delicate high-tech white elephants" that only perform better in tests unrepresentative of combat environments.[22] For a contemporary example, we only need to look at the F-35's development. Unlike this multi-role monster, simple trainers like the Cessna 172 and others are "pure expressions of function, designed to perform a limited set of tasks very well."[23]

Technology can aid training, but it is no substitute for the complex neurological functions required to simply observe and control an aircraft's attitude. Students may benefit from including multiple engines and advanced avionics. However, during the initial stages of flight training, students should concentrate on the fundamentals of flight such as how altitude, weight, and airspeed relate to performance, and, critically, the relationship between attitude and power. They must also learn cross-country navigation through both digital and analog methods. Lastly, letting students make navigational decisions in an aircraft without full-color moving maps will help them operate in a dynamic environment, where information is often unclear or conflicting.

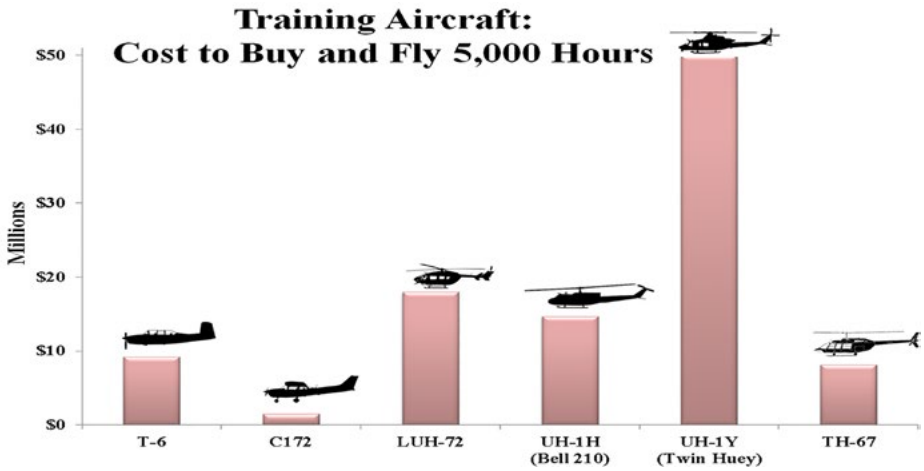
The best platform to do this is a simple FW aircraft. The principles of control and airmanship apply to helicopters as well as FW aircraft. Teaching airmanship, as opposed to aircraft specific procedures and methods, develops competent aviators. This approach will pay dividends when more well-rounded pilots enter advanced aircraft. Having learned to fly airplanes after helicopters and then teaching other Army Aviators the same, I can confidently say that learning airplanes makes for better helicopter pilots. Airmanship skills, if properly understood, are transferable. The Federal Aviation Administration acknowledges this with greatly reduced flight time requirement for aviators adding ratings to existing licenses.[24]

Focusing on the basics under simpler, less demanding conditions would allow for more focus on model-specific characteristics when aviators move to their advanced aircraft. With a better understanding of the basics of flight and operations, aviators could advance more quickly, potentially allowing instructors to include more scenario based training (SBT).[25] Using SBT is a proven technique for instruction used in civilian and commercial instruction; more importantly, incorporating SBT would facilitate the FSXXI goal of producing RL-2 equivalent aviators.

Moreover, this approach would aid the long-term goal of FSXXI by creating aviators better prepared for training at operational units, not only for RL progression but to act as pilots in command as well. Since the Army does not create pilots in command during training, as the other services do, we would be wise to utilize student solos during primary training as a means to teach planning, responsibility, and decision-making. Instilling these tenets early will help both immediately during initial training at Fort Rucker and when new aviators arrive at their units.

Though giving Aviators more time in their principal aircraft was a goal of FSXXI, we should consider their capability when undergoing this advanced training.[26] An

Aviator who is not ready for the major step from simple aircraft will waste aircraft and instructor time in a UH-60M or AH-64D/E to the tune of thousands of dollars per hour. We should seek to maximize the *not just the number of hours* aviator spend in advanced training but the *quality of those hours* as well.



Aviation can no longer rely on deployments to produce competent pilots in command. Though the tempo for aviation units is still high, opportunities for junior aviators to gain 500 hours in a summer are likely gone for the foreseeable future. Consequently, Fort Rucker must strive to produce the best pilots it can. Training prepares military aviators to fly and fight; it also initiates them into a warrior culture. Training should be an all-pervasive phenomenon, a constant that occurs during war and peace.[27] If we understand this premise, it follows that the basics are crucial. The initial hours spent in an aircraft teach the "the foundation upon which future flight training can build."[28] Making the best use of these hours—at the right price—will improve a generation of Army Aviators.

Note on methodology: Aircraft costs are notoriously difficult to pinpoint. This article utilized the FY16 DoD Fixed Wing and Helicopter Reimbursement Rates for hourly costs. The Cessna 172 rate was derived from an average of rental rates plus 50%. Aircraft unit costs are from the average of FY 10-16 DoD budget requests, civilian websites, or historical data. All costs are displayed in 2016 dollars, adjusted by the CPI. DoD Sources: http://comptroller.defense.gov.

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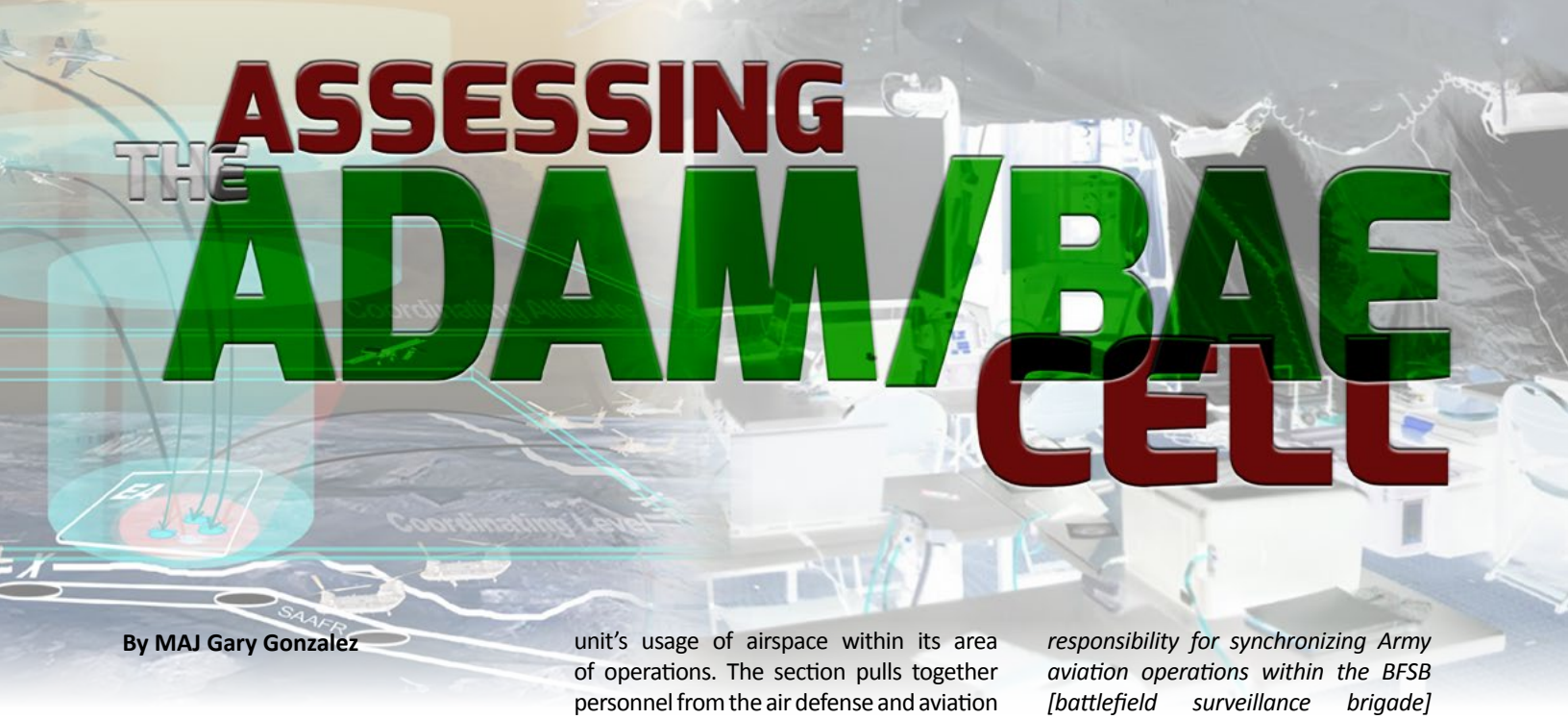
Acronym Reference

DoD - Department of Defense	**RL** - readiness level
FSXXI - Flight School 21	**RW** - rotary-wing
FW - fixed-wing	**SBT** - scenario based training
IFS - Introductory Flight Screening	**USAACE** - United States Army Aviation Center of Excellence

ASSESSING THE ADAM/BAE CELL



By MAJ Gary Gonzalez

Arguably the most important aspect of commander's activities is assessing. An assessment forms bridges in and around the subsequent planning, preparing, and executing steps. Conceptually, and more broadly speaking, these activities, with assessment as the cornerstone, do not only apply to the commander, rather they represent a comprehensive learning process for anyone. More than a step, the assessment determines where one is in relation to where one wants to end. This is how improvements begin, adaptations spawn, and how self-discoveries occur. Indeed, they are the very hallmarks of learning organizations. For those who generate such weighty documents as unit tables of organization and equipment, assessments are no less important. The organizational structures that these pundits develop (i.e. plan and prepare) and that are subsequently implemented (i.e. executed) have far reaching effects on the lives of personnel in the Army every day. One such organizational structure is the air defense airspace management / brigade aviation element (ADAM/BAE) cell.

For many years now, the ADAM/BAE cell has existed within Army brigades to further develop the vertical dimension of operational environments. Just as the name suggests, this doctrinal special staff section is charged with a multitude of responsibilities regarding a ground unit's usage of airspace within its area of operations. The section pulls together personnel from the air defense and aviation communities to fulfill these responsibilities primarily in a tactical environment.

In 2006, Training Circular 1-400, *Brigade Aviation Element Handbook* discussed the BAE as a formalized structure within brigade combat teams to facilitate the integration of Army aviation into the ground commander's scheme of maneuver:

> *The BAE focuses on providing employment advice and initial planning for aviation missions, unmanned aircraft systems (UAS), airspace planning and coordination, and synchronization with the air liaison officer (ALO) and the effects coordinator (ECOORD). The BAE also coordinates directly with the aviation brigade or the supporting aviation task force (TF) for detailed mission planning.*[1]

Years later, in June 2010, FM 3-55.1, *Battlefield Surveillance Brigade* (BFSB) was the only specific brigade echelon publication to speak of the ADAM/BAE as an integrated cell emphasized more of the aviation integration piece over and above airspace management and air missile defense. It described the cell's responsibilities in this way:

> *The ADAM/BAE combines the responsibility for coordinating the brigade's air and missile defense (AMD) operations and the responsibility for synchronizing Army aviation operations within the BFSB [battlefield surveillance brigade] concept of operations into a single element. The BAE is a planning and coordination element whose major function is to incorporate aviation into the ground commander's intent. The BAE focuses on providing employment advice and initial planning for aviation missions, UAS support, airspace planning and coordination, and synchronization with the air liaison officer (ALO) if provided. The BAE does not take the place of aviation task force involvement in planning. It assists the BFSB in aviation planning and provides the aviation brigade or the supporting aviation task force leadership with BFSB mission information. The ADAM/BAE is also the primary planning element for airspace C2 [command and control] and AMD. The brigade aviation officer is the chief of the ADAM/BAE, which is located with the BFSB main CP [command post] unless the mission dictates otherwise.*

Three years later in 2013, yet another publication, ATP 3-01.50, *Air Defense and Air Management (ADAM) Cell Operation,* focuses the section's responsibilities more on airspace management and equipment, virtually treating the terms ADAM and ADAM/BAE as synonyms throughout the entirety of the publication:

> *The ADAM/BAE cell is an organic element of the corps, divisions, BCTs*

[brigade combat team], and select support brigades. The ADAM/BAE cell plan, coordinate, and establish connectivity for unified actions with communications systems, command and control and intelligence /controller networks, as well as airspace users; provides situational awareness and early warning; conducts continuous planning and execution of airspace management requirements for the supported unit/echelon; and conducts AMD and Aviation planning and coordination to determine AMD and Aviation requirements across the spectrum of conflict.[2]

Between these three publications, the ADAM/BAE cell emphasis seems to fluctuate, not only in responsibilities but also assigned personnel and equipment. Each publication has discrete differences and nuances in manning and capabilities. With such doctrinal turbulence, ground maneuver brigade table of organization and equipment (TO&E) variance has inevitably ensued. Ground maneuver brigades employ their ADAM/BAE cells in different manners in garrison and in the operational environments. The tactical setting clearly dictates the roles and responsibilities of airspace management, air defense, and aviation integration. But what of the garrison? How is the cell employed in the garrison setting?

The plans and preparations of Army structure and doctrinal authors pertaining to the ADAM/BAE have been executed for almost a decade. What assessments have been completed to determine the effectiveness of the ADAM/BAE cell embedded organizational structure within a ground maneuver brigade? What feedback has been taken into account? Should the ADAM/BAE cell continue to be assigned to the ground maneuver brigade? From this article's perspective and the author's experience, the ADAM/BAE cell should not be assigned to the ground brigade largely because of assigned personnel inexperience, habitual under resourcing and training, and misunderstood capabilities. Another contributing characteristic involves the stunted career progression and individual performance evaluations of the ADAM/BAE cell officers and enlisted Soldiers. This article's intent is to both generate professional discussion and advocate for attaching the ADAM/BAE cell to ground maneuver units vice assigning them.

The Experience Gap

The assignment of the brigade aviation officer (BAO) and air defense officer (ADO) in the ADAM/BAE is seriously flawed. The tasks of both of these positions require a definitive amount of resident expertise. This experience comes primarily through having held key developmental positions. The BAO should be a (post S-3) seasoned senior major. The ADO should be a seasoned senior captain, post command or air defense artillery fire control officer. Instead, the trend has been that these positions are used as stop gap measure for managing officers resulting in a significant lack of experience within the ADAM/BAE cell. Instead of Human Resources Command assigning appropriately experienced personnel to these positions, installation personnel managers are filling the positions. Under these circumstances, branch career managers are unable to close the loop on how the careers of officers in their charge are properly developed.

The majority of ADAM/BAE personnel are not appropriately trained. They are not provided the opportunity to attend special schooling such as the Joint Airspace Command and Control Course or the Joint Personnel Recovery Course, both of which are necessary to perform their function within the ADAM/BAE cell. Incredibly, few are even provided the opportunity to attend the ADAM/BAE Course. The Infantry, Armor, Stryker, Aviation, and Intelligence communities focus their training in their respective areas while ADAM/BAE schooling invariably falls very low on training priority. Once assigned to their unit, ADAM/BAE personnel are often employed in their specialized skill set only during a training exercise while deployed. In garrison, ADAM/BAE personnel routinely become the "go to" personnel for extra duties or special projects with little consideration for their requirement to train their basic skill sets, let alone ADAM/BAE specific tasks. Yet, during training exercises or in a deployed environment, ADAM/BAE personnel are expected to coordinate airspace and aviation support to the brigade without fail because only then is their criticality realized.

Personnel and equipment shortages further deteriorate the performance of the ADAM/BAE cell. The ADAM/BAE cell is a special staff section whose capability, subject matter, and functionality are largely misunderstood throughout ground maneuver brigades. As a result, little consideration is given for physical space within the brigade command post as the ADAM/BAE cell requirements are an afterthought. The same goes for basic equipment with which to work. Essentials such as telephones, computers, tables, chairs, and vehicles come up short in the training and deployed environments. Inexperienced ADAM/BAE cell personnel are none-the-wiser until after the fact. The requirement to man a command post during day and night shifts decreases the cell's effectiveness because essential personnel positions have not been filled. Lack of experienced personnel within

the ADAM/BAE cell exacerbates the situation. Limited space, equipment, and personnel in aggregate result in minimal or suboptimal performance in the ADAM/BAE cell. This ultimately impacts ADAM/BAE personnel careers.

Career Conundrum

Brigade commanders have the difficult task of ranking their officers when preparing their efficiency reports. In a time of fiscal reductions, personnel drawdowns, and tailoring the Army to meet the requirements of a revised fiscal policy, this task only becomes more challenging. It is critical that senior leaders wisely select the future leaders from across the officer and enlisted ranks. For instance, an Infantry brigade commander must rank his Infantry officers within the constraints of his senior rater profile. Within that Infantry brigade combat team, the BAO or ADO are generally perceived as not significant contributors to the commander's top priorities, placing them at a disadvantage for top block evaluations. Additionally, the supplemental duties assigned to ADAM/BAE personnel are secondary and tertiary supporting efforts to the brigade's main efforts. They are not directly affecting brigade mission essential task list performance and therefore personnel assigned these duties tend toward center block or lower evaluations.

Another consideration is that the traditional positions of command, executive officers and operations officers, are key positions for career advancement. The officers in these positions have military occupational specialty (MOS) specific tasks to gain valuable experience and visibility for career advancement. The BAO and ADO positions, by contrast, are typically given non-MOS related tasks and are not in position to compete with the primary MOS of the brigade (Armor, Infantry, etc.) to which they are assigned. This likely places them in a severely disadvantaged position for career advancement with their own MOS peers. The BAO and ADO positions within the ground maneuver brigade are simply not as competitive and therefore these positions are not career competitive for either Aviation or Air Defense Artillery (ADA) officers. While the controversy of whether "hard" and "soft" key developmental positions actually exists continues, BAOs and ADOs fall behind in timing and placement with their peers across the Army. Both officers and non-commissioned officers average ratings seem all but inevitable given brigade commander rating circumstances. For the officer, a center block in the field grade years severely detracts from command competitiveness or selection to the next developmental position. Promotion boards conduct assessments based on overall file strength. File strength emerges from multiple evaluations with their respective rating profile and associated verbiage. The top block recipients tend to be the command positions and superlative coordinating staff positions (i.e., executive officer and S-3).

For the enlisted Soldier, the job in an ADAM/BAE cell in garrison also does not contribute to career development. For instance, a Flight Operations Specialist (15P) assigned to a non-aviation TO&E organization will not equally perform duties associated with their MOS as a 15P in an aviation organization's flight operations billet. A Soldier assigned to an ADAM/BAE cell will emerge at a disadvantage with his peers that began their career in a flight operations assignment. Consider the air traffic controllers assigned to the cell. Unless this controller is permitted to maintain or gain requisite certificates, his career is, at least stifled. For Air Defense series enlisted Soldiers, the ADAM/BAE assignment presents similar challenges.

What do you do again?

Because ADAM/BAE cells rarely perform duties related to their reason for existence in garrison where much of their time is spent, neither ADAM/BAE personnel nor brigade leadership have a full understanding of the ADAM/BAE roles, responsibilities, and capabilities. As discussed previously, the cell has a wide scope of critical tasks to perform during tactical operations. As it happens, this is the only time their skills are at the forefront.

Aviation officers within the cell are responsible for coordinating all flight activity within the brigade's area of operations and continuously updating the vertical and horizontal dimensions of the unit's airspace management plan. Overall lack of emphasis on training their warfighting skills/tasks require that personnel within the ADAM/BAE cell assigned to operate the Tactical Airspace Integration System (TAIS) are compelled to quickly refresh their skills at inputting a restricted operations zone, an air coordination area, or tie into the Air Force Global Area Reference System immediately prior to or even during deployment where the skill suddenly becomes essential. Again, because of the lack of emphasis on the

ADAM/BAE's training investment, it is routine to find that the only one within the ADAM/BAE cell that has any idea how to receive information on the TAIS or the air and missile defense workstation from other Army Mission Command Systems (AMCS) components is the Air Defense technician. Updates pushed from higher echelons, for the multiple systems that comprise the AMCS, compound the AMCS interoperability challenges. These updates frequently degrade the systems ability to receive data to deconflict and complete the airspace picture for the brigade commander.

Deconflicting and clearing airspace is, in some respects, the most important function of the ADAM/BAE. Without formal training, the ADAM/BAE cell's current operations section is often forced to develop and refine methods of clearing and deconflicting airspace in the midst of time-sensitive counter-fire missions and system failures. Simultaneously, the ADAM/BAE current operations personnel are expected to manage as much airspace that will facilitate the effects of Air Force, artillery, Army Aviation, and mortar fires while ensuring no degradation of aerial intelligence collection platforms within the area of operation. Often, ground units will argue for control of a vast airspace that they think will somehow facilitate the effects of organic artillery without consideration for implications regarding things like proportional airspace management complexity for Army Aviation rotary wing and Air Force close air support, unmanned aircraft systems, or air defense operations in support of ground forces.

The gap in misunderstanding or lack of understanding of the ADAM/BAE roles, responsibilities, limitations, and capabilities leaves the section vulnerable to inefficient employment. More importantly, it leaves the brigade at risk because of inefficient air defense and airspace management over its battlespace. This ignorance also increases culpability for the section.

Assessment

Still struggling with an identity problem within Army doctrine, the ADAM/BAE cell continues to face multiple challenges. At the forefront of these challenges, the experience gaps of personnel assigned to the ADAM/BAE cell degrade the overall performance potential of this critical section. Low prioritization on the ADAM/BAE by the ground brigades has rendered these sections under resourced, untrained, misunderstood, and misused. The personnel are placed at a disadvantage career wise as primary MOS skills and tasks atrophy and as peers that occupy weightier positions in Aviation and ADA positions progress ahead. Another career disadvantage is that leader evaluations tend to rank ADAM/BAE cell personnel behind brigade's MOS specific command and primary coordination staff. Altogether, this situation is undesirable and unfeasible. For these reasons ADAM/BAE sections should not be assigned to the ground maneuver brigade.

Another Side

Some may argue that keeping the ADAM/BAE cell organic to ground brigade organizations fosters a more efficient integration of air defense, airspace management, and aviation. Theoretically, this efficiency stems from the ADAM/BAE cell having a personal working relationship with ground maneuver units within the brigade and being familiar with their tactics, techniques, and procedures. Within this utopia, the ADAM/BAE cell is fully embraced and viewed as essential to the warfighting function of the brigade. The organic ADAM/BAE then ideally harmonizes these efficiencies with their internal expertise and presents this as an asset readily available to the ground leadership.

This discussion is convincing at first glance. However, a closer look reveals that these ideal conditions are rarely attained. The ADAM/BAE cell is rarely manned with the full complement of personnel required to perform their minimum function. Most often, the personnel that end up in the ADAM/BAE cell have little to no experience in the tasks to be performed, the equipment, or programs necessary to their function. An AH-64 pilot typically is not an air assault planner. A Patriot battery commander may not know anything about Sentinel radar systems. Consider also that organizational standard operating procedures, by definition, are always in flux as a living document. Already inexperienced with ground unit particular capabilities, ADAM/BAE personnel are more challenged to learn their ever changing procedures. Additionally, personnel outside the ADAM/BAE typically do not understand the subject matter and capabilities within the section or their contribution to the organization. THE ADAM/BAE and brigade leadership turnover hinder the building of professional relationships

as both sides struggle to develop shared understanding. Add to these realities that the aviation task force assigned to the brigade typically uses its liaison officer to work directly with the brigade's operations section and bypasses the ADAM/BAE. The apparent integration efficiency, so appealing at first, is challenged with the reality of real world issues.

Recommendation

In general, to improve ADAM/BAE cell operations, personnel strength, equipment, and training should be increased. However, instead of being assigned to the ground maneuver brigade, the ADAM/BAE personnel should be assigned to the combat aviation brigades (CAB) and air defense artillery battalions to provide the same functionality in a manner similar to Air Force assignment of the ALO. Like the concept of the fire support coordinator, the CAB S-3 should be dual hatted as the BAO. The remaining ADAM/BAE cell aviation personnel should also come from the CAB. The ADO should also be dual hatted as the ADA battalion assistant S-3 (post command). Rather than installation human resources assigning ADAM/BAE personnel, the ADA and CAB commanders in coordination with Human Resources Command oversight, should select ADAM/BAE personnel. Fully aware of the significance of the air- ground relationship, the CAB and ADA commanders would ensure personnel of the proper experience and education were assigned to the ADAM/BAE positions.

The CAB and ADA battalion should be responsible for training and resourcing the ADAM/BAE with personnel. To lend stability to the positions, they should be attached to the supported ground maneuver brigade for a minimum of one year rotational assignments, thereby, minimizing any detrimental effect on their primary MOS related tasks and skills. The CAB and ADA commanders should be responsible for ensuring the ADAM/BAE personnel receive appropriate professional military education. Instead of being marginalized in efficiency rankings, ADAM/BAE personnel would remain competitive since they represent an essential link to the supported ground unit and remain within their respective parent unit commander's rating scheme. The ADA and CAB commanders would rate their respective ADAM/BAE personnel instead of the brigade commander of the supported unit.

The number of personnel within the ADAM/BAE cell should be increased in consideration of the requirement for 24 hour operations. The CAB and ADA battalion should also be responsible for all equipment necessary to provide a fully functioning ADAM/BAE cell. This would include communications, computers, software, and ancillary interface equipment required to interface with the AMCS and the supported unit's network.

Lastly, the CAB and ADA battalion should present a capability brief on the functions, capabilities, and expectations of the ADAM/BAE cell to each incoming brigade combat team commander and his senior leaders.

Conclusion

By increasing personnel, equipment, and training in this manner, the ADAM/BAE cell becomes a stronger entity in support of ground maneuver units. Also stemming from this construct, the CAB and ADA battalion will derive a vested interest and buy-in to the ADAM/BAE cell. Manned properly, the CAB liaison officer will be integrated in the ADAM/BAE cell to more effectively enhance air-ground operations with the supported ground maneuver unit.

[1] U.S. Department of the Army, Training Circular 1-400, Brigade Aviation Element Handbook (Washington D.C.: U.S. Department of the Army, 27 April 2006), 1-1.

[2] U.S. Department of the Army, Army Training Publication 3-01.50 (Washington D.C.: U.S. Department of the Army, April 2013), 1-1.

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Acronym Reference

ALO - air liaison officer	**C2** - command and control
AMCS - Army Mission Command System	**CAB** - combat aviation brigade
ADAM - air defense airspace management	**ECOORD** - effects coordinator
ADA - air defense artillery	**MOS** -military occupational specialty
ADO - air defense officer	**TAIS** - Tactical Airspace Integration System
AMD - air and missile defense	**TF** - task force
BAE - brigade aviation element	**TO&E** - table of organization and equipment
BAO - brigade aviation officer	**UAS** - unmanned aircraft system

PARADIGM SHIFT:

TURNING AN ATTACK TEAM INTO A SCOUT TEAM

By CPT John Commerford

The effectiveness and practical necessity of aerial scouts executing their mission in an aircraft designed for the aerial scout mission is not in dispute. What is in dispute is how to make attack pilots, trained in and flying an aircraft designed for the attack mission, into aerial scouts. In these times of fiscal constraints and restructuring, the Army must develop a thorough and complete plan of action to use the AH-64 system (pilot and aircraft) in the reconnaissance role. Aircraft in the reconnaissance and security mission set increase the speed, tactical mobility, and depth of ground cavalry reconnaissance squadrons. The aviation community owes the ground force commander a continuation in the synergistic relationship between the ground unit and aero scout. The Army, when transitioning to the AH-64 as the primary manned scout aircraft, must maintain and nurture the aero scout mindset, create habitual training relationships to establish tactics, techniques, and procedures (TTP), and leverage technology where possible to enhance ground and aerial scout capabilities.

An aircraft and its role begins with the pilot flying that aircraft. The Army can take the scout out of an aircraft, but must not take the scout mentality away from the scout. There are fundamental differences in the "gun" and "scout" pilot mentalities. When blending the scout culture into an attack aircraft, the Army must preserve the aero scout's mindset. The Army's plan to transition OH-58D pilots into the AH-64 is a good starting point to preserve the scout culture. However, much more must be done to ensure the ground/air recon integration culture, as a combat multiplier, is not lost. The Army should encourage former OH-58D instructor pilots and unit trainers to transfer their skills into the AH-64. These instructors will form an initial base at the unit level to develop skilled scout teams within the current pool of attack crews. Beyond the unit level, the U.S. Army Aviation Center of Excellence (USAACE) should replicate the academics and flight syllabus that had been used to create the superior knowledge and skill set of the aerial scout in the AH-64 program of instruction. It is essential that the scout resume developed from this course continues to serve the Army. Failing to do so, will invariably and dangerously burden the ground reconnaissance elements, with providing the commander with information he has heretofore expected and received from aerial scouts. The USAACE should seek to hire instructors with reconnaissance experience to develop a new crop of AH-64 pilots capable of performing both in the attack and scout roles.

Maintaining and nurturing the aero scout culture must include the integration of ground forces. Aero scouts historically have a very close relationship to ground scouts. The aero scouts work to increase the reach and scope of the ground reconnaissance forces. Careful air-ground operations (AGO) planning, rehearsals, and training lead to the most beneficial intelligence for the ground force commander. Heavy attack reconnaissance squadrons (H-ARSs) must train AGO and all of its mission sets. It is vital that the H-ARS complements the ground force and increases the tactical reach of the commander. Training with ground forces habitually in a progressive manner allows for the practice necessary for "attack" pilots to understand that integrated air and ground reconnaissance is more effective than pure air or pure ground reconnaissance.

The Army must have a renewed urgency for training, not garrison type training, but real tactical training in the field. If forces are only as good as their training, then habitual training relationships must begin to take shape amongst the units of the Army. This is especially necessary for the new H-ARSs since they are new and relatively untested in combat. The H-ARS troops must practice in order to determine what TTP works best to complement the ground unit reconnaissance forces. Then, the H-ARS must pass this knowledge to the USAACE for dissemination to other squadrons. When testing TTP, training should include the unmanned aircraft systems (UAS) of the H-ARS. The manned and unmanned

team (MUM-T) will likely form an integral part of the new reconnaissance role of the AH-64, but without first extensively testing the abilities of this technological match, the realization of both the potential strengths and weaknesses of the MUM-T may come too late in combat.

View from a UAS camera.

View from an AH-64 during reconnaissance

Operationally, the Army should experiment with the deployment of AH-64s in training. The Air Mobility Command can quickly and easily move an entire air cavalry troop of OH-58s, with the troop ready to perform soon after the C-17 lands; however, it is far more complicated and takes far more time to move and make operational the same compliment of AH-64s. The Army must investigate and develop new maintenance requirement solutions for the AH-64 in order to decrease the deployment time of AH-64s into a contingency theater of operations.

Training currently exists to leverage the technology of the AH-64 and UAS team. Investigations in Afghanistan identified problems such as insufficient ranges for unmanned aircraft and constrained situational understanding. As an example, the limited aperture of UAS cameras can only provide a "soda straw" view of the operational environment. The closed cockpit of the AH-64 also limits visual situational awareness. With this in mind, tasks such as assessing cross-country mobility on routes demand the development of different TTP to use in conjunction with ground reconnaissance. At the risk of honing in on singular targets, technology helps the scout extend visual range with the AH-64, but without proper scanning techniques, trained crews could "miss the forest for the trees." The development of new TTP is vital to ensure, as aircraft crews take control of the UAS to extend ranges, the flight of the manned aircraft does not fall to the wayside. As the Army continues to proliferate the UAS, the commander must fully integrate UAS crews in AGO. Unmanned aircraft system operators must understand what information the ground commander requires from UAS reconnaissance and the UAS operators must be able to explain to the commander the capabilities of their aircraft. The sensors and hardware of the AH-64 and UAS are superior to those of the OH-58, but if not thoroughly developed and integrated, the AH-64 or UAS "bells and whistles" will not improve AGO for reconnaissance.

Challenged with significant cuts in its Fiscal Year 2014 and beyond procurement and operations budgets, Army Aviation chose to start down the path of its second Aviation Restructure Initiative (ARI) in just 21 years.[1] The Army Chief of Staff approved and implemented the first ARI in 1993.[2] A casualty of this second ARI is the OH-58 system – the OH-58 aerial scout and his aircraft. Nevertheless, Army Aviation retains the critical requirement to provide aerial reconnaissance. For the foreseeable future, the AH-64, teamed with UAS aircraft, must satisfy this requirement. This may not be a perfect solution, but this solution allows the opportunity for the scout community to grow provided the Army maintains and nourishes the scout culture, establishes new TTP through renewed training initiatives, and leverages the available technologies of the AH-64 and UAS aircraft to benefit the reconnaissance and security mission set. Challenges are inevitable in the Army, but how these challenges get resolved and the attitudes behind these resolutions shape future conflicts. The scout pilots of the present and the past owe it to Army Aviation and the ground forces to steer the course of the MUM-T to success in the role of reconnaissance and security.

[1] Creekmore, Joseph P. COL. Personal interview. 27 January 2015.
[2] Ibid.

CPT John Commerford is currently the Commander, Headquarters Company, 3-1 Aviation Regiment, 1st Infantry Division (ID). Previous assignments include Assistant S-3, Combat Aviation Brigade, 1st ID; Battle Captain and Air Assault Planner, 3rd Squadron 17th Cavalry Regiment; and Platoon Leader, A Troop, 3rd Squadron 17th Cavalry Regiment. CPT Commerford has deployed in support of Operation Enduring Freedom and has served as a pilot in command in the OH-58D.

Acronym Reference

AGO - air-ground operations
ARI - Aviation Restructure Initiative
H-ARS - heavy attack reconnaissance squadron
MUM-T - manned-unmanned team
TTP - tactics, techniques, and procedures
UAS - unmanned aircraft system
USAACE - U.S. Army Aviation Center of Excellence

TURNING PAGES

~ book reviews of interest to the aviation professional

In Extremis Leadership:

Leading as if your life depended on it

By Thomas A. Kolditz. San Francisco: Jossey-Bass Publishers 2007. 249 pp. Available in hardcover and Kindle formats at https://www.amazon.com/Extremis-Leadership-Leading-Your-Depended/dp/0787996041/ref=sr_1_1?s=books&ie=UTF8&qid=1469554013&sr=1-1&keywords=in+extremis+leadership.

A book review by MAJ John P. Kurtzweil

The author of *In Extremis Leadership* is Brigadier General (retired) Thomas A. Kolditz. Kolditz is a professor at the Yale School of Management. During his service in the Army, he served in a variety of leadership positions and has held positions as a professor at the U.S. Military Academy, concept developer in the Center for Army Leadership, and was the founding director of the West Point Leadership Center. Through his book *In Extremis Leadership*, he gives real leadership examples that show how extreme life and death leadership skills can offer eye opening lessons to leaders with varying level of leadership experience in a variety of settings. Kolditz challenges leaders to learn from their own experiences and to lead as though their lives depended on it.

In Extremis Leadership is structured with six chapters and includes conclusion and resource chapters. The individual chapters contain vignettes of leaders who have had experiences in life threatening situations. A summary at the end of each chapter allows readers to quickly access the main points of the chapter as a reference for developing their individual leadership skills. The conclusion briefly identifies many of the individuals, associated with or interviewed by the author, who represent the values placed on in extremis leadership. The resource chapter describes what in extremis leaders can do to meet the physical demands of this leadership style.

Kolditz does an excellent job describing the concept of in extremis leadership. He goes into some detail defining in extremis leadership, how to identify it, its strengths and weaknesses, and the circumstances under which it is best applied. Kolditz identifies and describes the attributes of in extremis leaders across a wide spectrum of professions and life experiences. These range from the youngest leaders who are just beginning to develop their leadership style to the most seasoned leaders who continue to develop and refine theirs. The author goes on to explain how the application of the lessons of in extremis leadership covered in the book can improve leadership across all sectors of society.

In Extremis Leadership describes techniques that permit leaders to assess their response to situations or provides some understanding of how they might behave in potential life threatening or life altering situations. This book is a good read for junior leaders who want to understand and develop the skills necessary to lead others through tough and potentially life threatening situations. Seasoned leaders might find the material useful as a way to evaluate and improve their own leadership skills or as a tool to further develop their subordinate managers or leaders to take on roles of increased responsibility. This book is truly eye-opening and life changing if the reader choses to take the examples and lessons and apply them to everyday life.

TURNING PAGES

~ book reviews of interest to the aviation professional

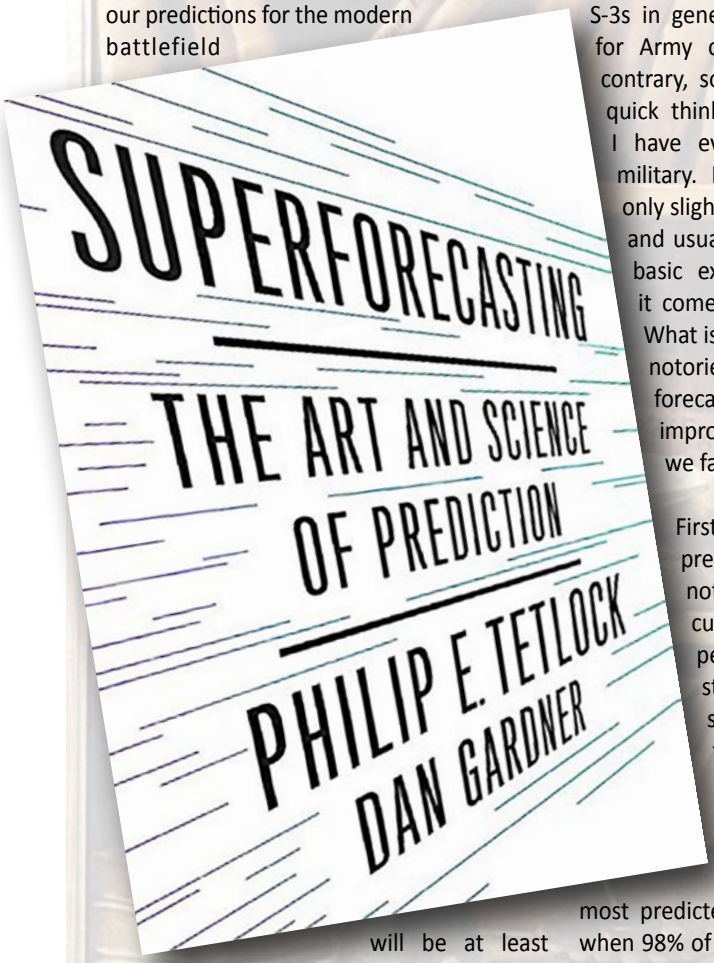
Superforecasting:

The Art and Science of Prediction

By Philip E. Tetlock and Dan Gardner. New York: Crown Publishers 2015. 340 pp. Available in hardcover, paperback, kindle, and MP3 CD formats at https://www.amazon.ca/Superforecasting-Science-Prediction-Philip-Tetlock/dp/0804136696.

A book review by CPT Sean Clement

The nature of the Army profession compels many, especially those in planning sections, to compile, list, and catalog assumptions for any plan being set before a commander. By the time a training calendar reaches a commander, by the time the assumptions have been vetted, re-vetted, and vetted once more in a seemingly endless chain of meetings, in-progress reviews, and slide shows we make the assumption that our predictions for the modern battlefield will be at least accurate enough for us to adapt. Right now, somewhere in the Army there is a battalion or brigade commander taking command, and his S-3 is going through this exact process. Where will we be in two years? What environment will we encounter? How will we fight? His S-3 is acting as a forecaster, and he is likely not very good at it.



Answering these questions can be difficult, they can be incredibly uncertain, and in the field of aviation, small mistakes or incorrect planning assumptions can cost lives. My assertion that the hypothetical S-3 is not a very good forecaster is not a judgement on S-3s in general nor is it a condemnation for Army officers as a whole. On the contrary, some of the most imaginative, quick thinking, and professional people I have ever met are officers in the military. However, people tend to be only slightly more accurate than chance, and usually worse than even the most basic extrapolation algorithms when it comes to predicting future events. What is worse is that fame (rank), and notoriety tend to make one a worse forecaster. So what can we do to improve our ability to predict what we face in the modern battlefield?

First of all, realize that difficulty predicting future events is not limited to the military. A cursory glance at mutual fund performance over a ten year stretch will show you that, while some do well if you compare them to the market index, the vast majority underperform. Another glance at the energy sector where just this year the price of oil crashed when most predicted it would rise. Or last year when 98% of economists predicted a rise in interest rates and were not just wrong, but 180 degrees off. So what hope do we have when professional forecasters are wrong so often? According to research done through the Intelligence Advanced Research Projects Activity (IARPA), the ability to forecast is trainable, achievable, and not at all a mysterious process.

During a multiyear long competition sponsored by IARPA, civilian forecasters, without access to classified information, were able to consistently outperform the intelligence community when it came to prediction by a margin of 30%. One of the main impediments that face those who use forecasting in their military professions, from weather observers to intelligence analysts, is that they are not keeping score. When an aviator takes a check ride, he receives instant feedback on his performance. Yet, we seldom hold forecasters to this same standard. When the S-2 told you that you were likely to encounter or not encounter enemy in a certain region, was he correct? The answer to this question becomes harder than we realize.

In P.E. Tetlock and D. Gardner's book Superforecasting: *The Art and Science of Prediction*, we can see that measuring the accuracy of a prediction, and making ourselves better forecasters is not impossible, but it does require diligent hard work, honest introspection, and intellectual openness. If we can take just some of the lessons from this book, such as understanding how to make our evaluation of risk more granular, supporting viewpoints only in so far as data supports or at least does not contradict, and explicitly specifying probability in a no-nonsense way, then perhaps we can avoid the same mistakes so many other forecasters have made. I would implore anyone in a decision making or analysis role to read and internalize the lessons of this book. It is well worth the time, especially when our estimates, analysis, and recommendations carry the weight of our Soldier's lives.

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- Douglas Merrill (Former Google CIO, 2004)

http://www.forbes.com/sites/douglasmerrill/2012/10/01/knowledge-is-power-those-days-are-long-gone/#33a307d74759

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