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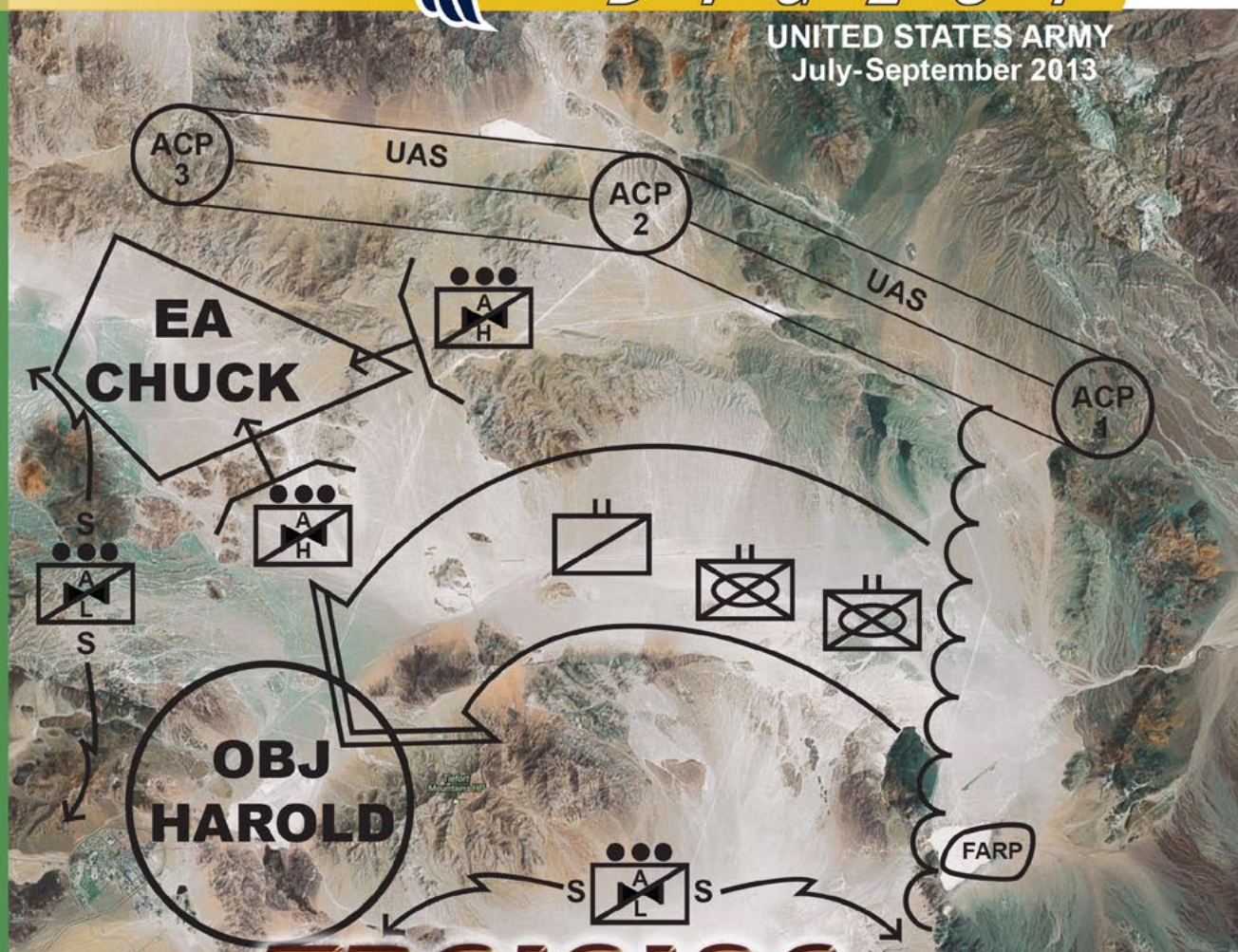

TRAINING & TACTICAL PROFICIENCY

UNITED STATES ARMY
Aviation Digest
July-September 2013

The Professional Bulletin of the Army Aviation Branch, Headquarters, Department of the Army, PB 1-13-3

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

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Submit articles or direct comments pertaining to the Aviation Digest to: usarmy.rucker.avncoe.mbx.aviation-digest@mail.mil.

ABOUT THE COVER

Decisive action planning at the National Training Center

Editor's Note

It is an honor to be joining the United States Army Aviation Center of Excellence Directorate of Training and Doctrine Team at Fort Rucker and to be involved with our recently restarted branch professional journal. The authors who contributed to the first two issues of Aviation Digest have absolutely set the right tone for sharing insights regarding the myriad of subjects that are important to our profession. Perhaps equally important to establishing an essential, professional dialogue is the feedback we have begun to receive from authors who agree, disagree, or simply have another perspective to share.

In our third issue of Aviation Digest, we focus on Training and Tactical Proficiency; with observations and lessons learned from candid introspection as well as valuable insights from the combat training centers. This is a subject that is at the forefront of conversations from the senior leadership of our Army to the most junior Soldiers in our ranks. It is not a surprise to anyone that while we continue to conduct operations in Afghanistan, we must consider how we will need to train and fight in the post-Operation Enduring Freedom environment. It is with this issue of Aviation Digest that we begin to delve into a series of topics which, through discussion and debate, will help ensure Army Aviation remains a fully integrated and essential part of unified land operations.

It was impressed upon me as a young officer that every Soldier should strive to contribute to a professional publication at least one time in his or her career. I am certain that many who are reading this are, at this moment, thinking back to similar comments from their leaders. I encourage all members of our community to contribute their thoughts and lessons learned so that we, as a branch, will continue to benefit from the wisdom and experience we have at all levels. As always, The Aviation Digest staff will readily assist anyone who wishes to submit an article or book review.

I look forward to working together as we strive to build upon the enviable legacy of Army Aviation.

ABOVE THE BEST!

LTC Frank P. Intini, III
Chief, Doctrine Division (ATZQ-TDD)
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LTC Frank P. Intini, III is the DOTD Doctrine Division Chief as of July 2013. Over the course of his career, LTC Intini served with the 101st Airborne Division (Air Assault); 1-228th Aviation Regiment in Honduras; the 1st Infantry Division; the 12th Combat Aviation Brigade in Katterbach, Germany; the JRTC at Fort Polk; and I Corps/MNC-I/USF-I. He has deployed to Kosovo, Iraq, and Afghanistan. Most recently, he commanded the 3rd Battalion, 158th Aviation Regiment and deployed to Regional Command-West, Afghanistan, as the commander of Task Force Storm. LTC Intini has over 20 years of service. He is qualified in the UH-60A/L.

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Author's Guidelines

E-mail articles to the *Aviation Digest* by including as a Microsoft Word attachment to usarmy.rucker.avncoe.mbx.aviation-digest@mail.mil. Include a military e-mail address and a phone number. Authors should include a short biography including number of years in the military, present assignment, duty position, aircraft qualification, and previous assignments, and deployments.

Visual material 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 300 dpi) saved in TIF or JPEG format.

Please do not submit articles that have been submitted or published in other Army professional publications. *Aviation Digest* staff will make necessary grammar, syntax, and style corrections to text to meet publication standards and redesign visual materials for clarity as necessary. These changes may be coordinated with the authors to ensure the content remains accurate and reflects the author's original thoughts and intent.

The *Aviation Digest* will publish once a quarter with distribution on or about the 15th of February, May, August, and November of each year. In order to receive information for publication and allow appropriate time for editing and layout, the deadline for submission of articles is the 15th of December, March, June, and September.

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

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General, United States Army
Chief of Staff

The Command Corner

The dust is beginning to stir! A professional bulletin is intended to be a forum for the exchange of professional views and opinions. These forums provide a vehicle for healthy dialogue and debate on current and emerging issues. Aviation Digest is quickly becoming our vehicle to do just that once again. With your participation, input, and contributions we can do all that and share technological developments; tactics, techniques, and procedures; summaries of research papers; historical perspectives; and practical exercises.

Aviation Digest will allow us to challenge one another about the things we do well and those we must refine and improve to remain an indispensable capability and force dedicated to and relentlessly focused on honoring a sacred trust with commanders and Soldiers on the ground. For example, "Intelligence Support to Army Aviation is Broken. Does anyone Care" by MAJ Koehler and LTC (Ret) Tatarka in the April-June 2013 issue of the Aviation Digest has energized thought and analysis in both the Aviation and Military Intelligence Centers of Excellence on what needs to be done and how to fix what needs to be fixed. In our first Reader's Respond entry, 1LT Hoffman counters MAJ Koehler's conclusions in this issue of the Aviation Digest. Who is right? I have solicited input from Combat Aviation Brigade commanders on their thoughts about the organization, training, and capacity of their intelligence sections to support their efforts.

"Stability Through Partnership" by MAJ Stillinger provides insight into the extraordinary partnering efforts by the 36th Combat Aviation Brigade to reach out to our allies in the mid-east to conduct meaningful multinational military exercises. Partnering will be a growth area in the future, as we seek to build capacity of partner nations to conduct aviation operations and support themselves. The 36th CAB is on the cutting edge in this mission area and several others that will be critical to us in the future.

Each of the articles in this Training and Tactical Proficiency themed issue of the Aviation Digest demonstrate the willingness of the authors and their organizations to identify those things that make us better and share them with the rest of Army Aviation. I ask that you continue to use Aviation Digest to that end.

ABOVE THE BEST!

MG Kevin W. Mangum
CG, U.S. Army Aviation Center of Excellence
and Ft. Rucker

Letters To The Editor

In response to the Aviation Digest Volume 1 Issue 2 (April-June 2013) article "Intelligence Support to Army Aviation is Broken-Does Anyone Care?" I believe that the issues MAJ Koehler has addressed are legitimate, and that his opinions are held by numerous aviators and intelligence professionals alike. I do, however, respectfully disagree with many of the solutions proposed.

Learning the friendly capabilities is a must for any assignment that you receive as an Army intelligence officer. The schoolhouse at Fort Huachuca is simply unable to personally educate you on the capabilities of your specific unit whether it is aviation or otherwise. It is our responsibility as intelligence professionals to understand our assigned unit's capabilities and weaknesses.

The tactical operations (TACOPS) section is the bridge that connects intelligence with operations and should be an intelligence professional's source for all things aviation. Unfortunately, this is not the case in many units, where TACOPS and intelligence act more as infrequent acquaintances than as an integrated command support team.

Knowledge of friendly and enemy capabilities with respect to rotary wing operations is the basis for effective intelligence support to aviation operations. Knowing friendly and enemy capabilities is essential in providing this support. However, this begs the question: Isn't this the same thing that intelligence personnel do in every Army unit? The answer is unequivocally YES.

Aviation targeting is significantly different from ground targeting. The first point I will make is that aviation targeting is not solely confined to the AH-64. Every aircraft in the Army's inventory can and must be used as a vital addition to the targeting process and collection plan in an aviation unit. Knowing the airframes and their mission sets is the first step to successful aviation targeting.

The technique for briefing individual aircrews can be effectively summarized by explaining what they want to know and why. Every airframe has a different mission and should receive an intelligence brief that is tailored to their role within the larger mission. Essentially, CH-47 and UH-60 pilots need to know where the enemy is so that they can avoid them, while OH-58D and AH-64D pilots need to know where the enemy is so that they can find, fix, and finish them.

In garrison, an aviator must meet all requirements of flight time and readiness - level progression in order to be authorized to operate their airframe once deployed. What regulations specify that intelligence personnel must maintain their knowledge of the intelligence scenario in their future area of responsibility prior to deployment? The bottom line is that in order for S-2 sections to deploy as subject-matter experts, they must maintain that expertise while in garrison, and their ability to do so must be protected by commanders and other leaders due to the lack of regulations that mandate it.

Too often intelligence personnel walk into an aviation unit lacking the institutional knowledge they need to be effective. While a formal course would be helpful in this regard, for now it is up to intelligence professionals to ensure that they are prepared to provide the necessary support to aviation operations by striving to gain this information on their own, I hope this article can provide guidance in that process.

Respectfully, Charles L. Hoffman; 1LT, Military Intelligence; 159th Combat Aviation Brigade Assistant S-2. A more detailed discussion supporting 1LT Hoffman's position may be found at https://www.us.army.mil/suite/doc/40527663.

A note from the editor. Although, as stated in Department of the Army Pamphlet 25-40, "Letters to the editor commenting on the quality of the (professional) bulletin or other matters that do not contribute to the mission of the preparing agency" do not meet content standards for a Professional Bulletin, we will publish this one note forwarded to the Aviation Digest staff and request forgiveness from the Army Publishing Directorate after the fact with a promise not to do it again. We publish this response not to boast on our efforts to put the Aviation Digest back on the street but to boast about the authors who are stepping forward to share important ideas, lessons learned, and professional opinions with the rest of the Army Aviation branch. It is these authors who will make the Aviation Digest as successful as the Armor, Infantry, and Field Artillery branch Professional Bulletins.

To the Editor,
It is rare that I come across a written document or publication that compels me to respond. After reading the Apr-Jun 2013 edition of Aviation Digest, I felt that I had to express my support for such an outstanding publication.

I extend congratulations and thanks to those who put forth the effort in writing, submitting, and editing such good articles; "Fading Army Traditions" and "TACOPS to Mission Survivability Program" are two that really echo my personal experiences and concerns in today's Army.

Keep up the Great Work! Boyde Crawford; CW3, AMS Officer; A Co 2-238th Avn Regt "OUTLAWS"

COMBAT IMPERATIVES

Help101st CAB Flightcrews Accomplish Mission

By CW4 Terry Horner
and CW5 Rick Knowlton
Task Force Destiny /
101st Combat Aviation Brigade

Eastern Afghanistan is a challenging rotary-wing aviation environment. The mountainous terrain, combined with harsh and unpredictable weather, requires skilled aviation expertise to accomplish the simplest mission. Add a determined and adaptive enemy that forces aviation mission into the darkest of nights to take advantage of America's technological advantages, and you have created perhaps the most demanding flight environment Army Aviation has ever faced during combat operations.

Maj. Gen. James C. McConville, Commanding General of the 101st Airborne Division (Air Assault) often says, "If you can fight in Regional Command-East, you can fight anywhere."

Unfortunately, after more than ten years of fighting in Afghanistan, helicopter accidents and shoot downs too often are a result of repeating mistakes from previous deployments. Recognizing that human error accidents and aircraft shoot-downs resulting from inept tactics are the primary cause of aviation tragedy in combat, the 101st Combat Aviation Brigade (CAB) employed a bottom-up approach to confront the challenge of removing human error accidents and improving cockpit decision making.

Through empowering a team of senior warrant officers, in the fall of 2011 the 101st CAB drew from the flight experience in each battalion to form a list of guidelines they titled combat imperatives (CI). While not regulatory, each CI was tied to previous aviation tragedies—hard lessons learned that should not require repeating. Since each battalion helped produce the CIs, they knew the imperatives well and were inclined to support them through disciplined flight operations—people will support what they help create.

The 101st CAB trained utilizing their CIs for almost a year prior to deployment, including numerous combat training center rotations and mountainous environmental training events. The CIs formed the foundation for individual and team training as the brigade prepared for the deployment. A work in progress, the brigade senior warrant officers modified and adjusted the CIs numerous times throughout the train-up phase and refined them six times during the deployment.

Since the CIs are not regulatory, each air mission commander or pilot in command could deviate from a CI any time the situation warranted a different tactic. The point was that a leader should only deviate as a thoughtful and deliberate action, not through following blind instinct or undisciplined behavior. Any time a leader chose to deviate from a CI he or she notified a brigade senior warrant officer of the situation to reassess whether the CI needed adjustment or refinement or to possibly disseminate the situation parameters across the brigade task force to prepare others for a similar situation. This created a collaborative element where the brigade task force readily shared critical information and recent happenings across the eight-battalion task force.

In order to keep the CIs at the forefront of the execution of aviation operations, the task force mandated their use during mission planning, briefing, approval, and rehearsal processes. The CIs provided a common vernacular used by leaders at all levels for operational areas that required planning and discussion prior to mission execution.

The imperatives, summarized by the acronym H4D2 mean: High, Hot, Heavy, Hostile, Dark, and Dusty. These terms represent the adverse conditions faced by crews operating in Afghanistan. The imperatives draw crewmembers' focus to key areas that will help them safely complete missions, despite the difficult environment and a determined enemy. For each element of H4D2, the 101st CAB developed a manning, equipping, and training strategy to ensure that they mitigated each element of H4D2 to the fullest extent possible.

High – The Hindu Kush Mountains dominate much of northern and eastern Afghanistan with peaks 15,000 feet above sea level and elevations on the valley floors generally exceeding 5,000 feet above sea level. The thin air at high elevations reduces engine and rotor blade performance and decreases the aircraft's ability to hover out of ground effect. At these altitudes aircrew members can exceed aeromedical limitations, requiring the use of supplemental oxygen. It is common for attack helicopters to operate at 14,000 feet above sea level for long periods of time.

Hot – High temperatures reduce aircraft power available and the usable load that aircraft can carry. Planners and crews must consider the effect that high temperatures will have on an aircraft's ability to complete a particular mission and adjust the planned load if power available is insufficient for safe operations. A utility helicopter may be

TF Destiny Combat Imperatives V 6.4
High, Hot, Heavy, Hostile, Dark, Dusty (H4D2)
From the target or threat, whichever is closer; supporting assets requested or on station as required by SOP. Landing to the X (as per SOP) Landing to the Y (as per SOP) Offset LZ (as per SOP)
Non Standard HLZ (NSHLZ): Red-illum P.A.C.E. (e.g. CAS covert illum, ARTY covert illum, CAS IR flood / sparkle / CH47F IR flood, RW IR illum) MEDEVAC procedures on OBJ: P: CTAF; A: AWT/SWT int; C: MED int; E: SATCOM. Chase takes directions from AWT/SWT on station No planned simultaneous mixed MDS landings to same NSHLZ without increased planning/rehearsal During assault missions from infil thru the exfil, do not conduct continuation training
UH plan SOP below MAX GWT OGE at objective; UH/CH minimum planned weight per pax per SOP Flt lead/AMC will select NSHLZ for Task Force approval PIC, Flt lead, AMC, MEDEVAC rep will attend mission brief & rehearsal AC2 coordinating altitude RP to LZ; as per SOP RP inbound, UH/CH all pilots will be focused outside & prepared to take controls Empower NCMs: All crewmembers must assist in providing drift and obstacle avoidance The pilot most proficient and in the best position will be on the controls to execute assault approaches
Alternate HLZ as per SOP Avoid simultaneous formation takeoffs from NSHLZ
Environment and tactical risk should be considered before making multiple attempts to land in the HLZ Max 15kt crosswind including gusts for pinnacle/ridgeline landings Leveraged technology : (HUD, hover down technology, TACAN, FLIR, MUM-O, TerrEx) Use NVG HUD to mitigate red-illum (If HUD is inoperable, the approval authority for flight without HUD is the TF commander.)
Effective & precise test fires to instill confidence & maximize accuracy in the weapon system
AH/OH will maintain energy (mechanical, kinetic, potential) During reconnaissance operations OH trail no closer than Min SOP Standard Separation if High/Low movement technique is used
AH/OH must maintain altitudes that mitigate the risk of the predominant threat in the area Engagements or low reconnaissance below – TPMR will be briefed and duration limited Engagement ranges: AH & OH as per SOP If threat and tactical situation dictate a closer engagement, and there is a significant payoff, AH/OH can engage at the alt range estab in SOP
All crewmembers participate in S-2 de-briefs & AAR. AMC will ensure & review for clarity & correctness. Report Accidental and Deliberate deviations to any imperative, every time

able to safely deliver more passengers to a landing zone at a high elevation in January than they could to that same landing zone in August.

Heavy – Utility and cargo helicopter crews recognize that military personnel and their equipment are heavy and carefully plan loads for transport into landing zones at high elevations. Attack and scout helicopter crews must judiciously plan armament and fuel loads. Crews must consider whether the aircraft can conduct a rolling takeoff or if it will be departing from a helipad as takeoff power requirements differ significantly.

Hostile – Helicopters are high-value targets that when downed, generate media headlines around the world. Insurgents have a variety of weapons that they employ against helicopters including small arms, rocket propelled grenades, heavy machine guns, and shoulder-fired anti-aircraft missiles. Fight on our terms is the mantra; engage from greater distance to protect against ambush and make every test fire count.

Dark –While darkness conceals the aircraft and makes a successful engagement by enemy forces less likely, it increases crew workload and the difficulty of maintaining situational awareness, particularly during very low levels of ambient illumination.

Perceiving rate of closure during landing is especially difficult with low levels of illumination. Many remote valleys in eastern Afghanistan have no ground lights resulting in profound darkness. Crews operating within a mile of a 15,000-foot mountain may be unable to see the landscape through their night vision goggles.

Dusty – The climate in Afghanistan is considerably dry. Most helicopter landing zones have little vegetation and are dusty leading to "brown out" conditions while landing. Expect landing zones on forward operating bases to be equally dusty.

Unfortunately, the wisdom behind many of the combat imperatives is the loss of Soldiers through preventable accidents. It is important to learn from these accidents and instill the hard lessons in the next generation of aviation warfighters.

While the 101st CAB's combat imperatives are not unique, the approach of a bottom-up development process, CIs driving the mission planning and approval processes, and CI constant refinement and collaboration proved helpful in removing human error from aviation operations.

The 101st CAB completed their deployment train-up and a nine month combat tour with no injuries and zero Class A accidents.

CW4 Terry Horner is currently assigned to the 101st Combat Aviation Brigade, Fort Campbell, KY as the brigade AH/OH standardization officer. Previous assignments include the Directorate of Evaluation and Standardization at Fort Rucker, AL and four combat deployments. CW4 Horner's aircraft qualifications include the OH-58A/C/D and TH-67.

CW5 Rick Knowlton is currently assigned to the 101st Combat Aviation Brigade, Fort Campbell, KY as the brigade CH/UH standardization officer. Previous assignments include Flight School XXI standardization instructor pilot at Fort Rucker, AL, three combat deployments to Afghanistan and three deployments to Kosovo. CW5 Knowlton's aircraft qualifications include the UH-60L/M.

Acronym Reference

CAB - combat aviation brigade **CI** - combat imperatives **H4D2** - high, hot, heavy, hostile, dark, and dusty

36th CAB Partners With Middle East Allies for Regional Security

By MAJ Randall M. Stillinger

Most middle to senior-level Army aviators attended flight school and studied tactics in the post-Cold War and pre-9/11 era, when the focus was defeating enemy formations of armored vehicles in Eastern Europe. As the wars in Iraq and Afghanistan raged, tactics, techniques, and procedures (TTP) were modified for insurgency threats utilizing tactics that were once commonplace for those who fought above the jungles of Vietnam.

With the war in Afghanistan ramping down, a new shift to strategic focal points in the Middle East and in the Pacific, and a reduction in financial resources due to sequestration, there are many uncertainties about the future of Army Aviation and the type of mission sets that lie ahead.

The 36th Combat Aviation Brigade (CAB), which is currently deployed to the Central Command (CENTCOM) Theater, has a front-row seat for what may be the future of Army Aviation operations in the post-Iraq/Afghanistan era. Once used as a stepping stone for units headed north into Iraq, Camp Buehring in Kuwait is the headquarters for the 36th CAB of the Texas Army National Guard.

Composed of National Guard Soldiers from the states of Texas, Arkansas, Indiana, Montana, Alaska, and Kentucky, and active-duty units from Fort Bliss and Germany, the brigade is utilizing both fixed and rotary-wing aircraft to learn and adapt in this new strategic environment.

Regional Security Through Partnership

The primary mission of the 36th CAB includes the defense of Kuwait and to provide security in the region. While the brigade has enough internal firepower and resources to be a significant deterrent against potential threats, Soldiers are working with multi-national partners in the region to strengthen ties, execute joint training events, and learn best practices from each other.

The 35th CAB from the Missouri Army National Guard, which preceded the 36th in the CENTCOM area, conducted partnership events with the countries of Jordan and Saudi Arabia during their deployment. Within a month of arriving in country, the 36th was deploying Soldiers, aircraft, and support equipment to the United Arab Emirates (UAE) for Operation Desert Talon, which had been planned by the 35th before they redeployed.

This exercise was a first-of-its-kind event with the UAE that culminated with a joint overwater live fire exercise over the Arabian Gulf. A primary goal of this exercise was to further the development of AH-64D Apache TTP and assess the aircraft's efficacy against small watercraft that potential adversaries could employ against coalition forces. Moving and stationary targets, representing various watercraft profiles, were fitted with video cameras to capture ballistic and battle damage data that will be studied for future employment of the Apache's weapon systems.

While smaller task forces deploy to other parts of the region for specific events, an ongoing partnership with the Kuwaiti Air Force (KAF) continues to develop. The 2-135th General Support Aviation Battalion (GSAB) from the Colorado Army National Guard, which recently redeployed to the United States, partnered with the KAF's 32nd and 62nd Squadrons based at Ali Al Salem Air Base.

Before handing the partnership over to the incoming 1-189th GSAB (Montana Army National Guard), the 2-135th accomplished a successful joint personnel recovery exercise with the KAF. Their UH-60 Blackhawks and the KAF's SA 330 Puma helicopters participated in the exercise that recovered Soldiers from the Arabian Gulf with support from both U.S. and Kuwaiti Apache helicopters nearby to provide security during the hoist operations.

LTC Eric Monteith, commander of the 2-135th, said, "We were able to sit down and really come up with a mutually-shared vision with common objectives, which would benefit both organizations."

"It was a very unique opportunity for us to experience working with them, learning how they conduct missions from planning through execution," Monteith said. "And then for them to see how we do it, ultimately, both organizations benefited."

While training with our Kuwaiti allies will

continue, future partnership events for the 36th CAB include "Operation Bright Star" in Egypt and then planning for another exercise in Saudi Arabia in 2014.

ARABIAN GULF (April 24, 2013) — A UH-60 "Blackhawk" helicopter from the 36th Combat Aviation Brigade prepares for takeoff from the USS Shoup in the Arabian Gulf. (U.S. Army photo by Sgt. Mark Scovell, 36th Combat Aviation Brigade Public Affairs)

Moving around the region has posed its own challenges, especially in this era of reduced budgets. With the high cost of moving aircraft, maintenance equipment, and rolling stock using Air Force assets, the brigade turned to alternate modes of transportation.

To accomplish the mission, the 36th used a combination of methods to move around the region: Air Force transportation, U.S. Army ships known as logistic support vessels, self-deploying over land, or by hopping via U.S. Navy ships in the Arabian Gulf.

"Ultimately while in the tactical fight you have immediate gratification as you see the results of your work," Monteith said. "I think the seeds that we're sowing now, and the long-term strategic goals, which will impact my family farther down the road is very important for the Soldiers to understand and be very proud of."

Littoral Operations in the Arabian Gulf

A key to regional security is the free flow of maritime traffic in the Arabian Gulf. Of particular importance is the Strait of Hormuz between the UAE and Iran, which is crucial to the export of oil to the world market. Littoral operations, meaning "close to shore," is a term that is growing in use by Army aviators as the branch's horizons are expanded over the sea.

Once a mission performed solely by Navy and Marine Corps aircraft, the unique capabilities of the Apache make it a force-multiplier in this complex environment. The 4-501st Attack Reconnaissance Battalion out of Fort Bliss is continually honing its skills in this setting, which is new to even the more experienced aviators. Apache mission sets include surface surveillance coordination, maritime air support, and air interdiction of maritime targets (consisting of strike coordination and reconnaissance and maritime armed reconnaissance).

UH-60 Blackhawk maritime missions include combat search and rescue medical evacuation, the transfer of personnel and logistics support.

These overwater missions require Army aviators to add tasks and knowledge to an already long list of currency requirements, including:

- Understanding the effects of "sea state" or the height of wave swells.
- Knowing water temperatures (above or below 60 degrees) and related equipment requirements.
- Understanding/complying with hand-and-arm signals from deck personnel.
- Flying off shore with limited visibility utilizing aircraft systems to maintain situational awareness.
- Arming, refueling, and maintaining aircraft while embarked on Navy ships.

Deck landing qualification (DLQ) poses its own challenges for the brigade's aviators and planners. Initial qualification and currency requirements are outlined in a 2002 memorandum of understanding (MOU) between the Department of the Navy, Army and Air Force.

Ground-school classes taught by a qualified instructor pilot are followed by five field deck landing patterns on land or in an approved simulator. Five landings on a ship are then required for qualification. A similar process, which is laid out in the MOU, is required for night vision device qualification. Additional specific skills exist and are required based on whether the pilots are working on a one-spot ship or multi-spot ship.

While there are some aspects of DLQ that we can control, gaining and maintaining currency is dependent upon the availability of U.S. Navy ships in the Northern Arabian Gulf and changing conditions in desert weather which can affect training for several days at a time due to high winds and blowing sand or dust.

As the 36th CAB continues to work and train in the Arabian Gulf, the Training and Doctrine Command has requested the 36th CAB to review a draft version of TC 3-04.95, Shipboard and Overwater Operations, which will prepare future aviators for this unusual environment.

Training in a Joint Environment

The uniqueness of the 36th CAB's deployment places the brigade in a region that allows for training in a multi-faceted, inter-service environment. The last part of the brigade's mission statement is "establish and exploit training opportunities to maintain a deployable aviation task force in order to deter aggression throughout the region."

Locating and recovering "isolated personnel" is one of the many training opportunities being conducted. Kuwait's

location on the Arabian Gulf, along with the availability of U.S. Navy and U.S. Air Force assets, make this a prime training site for Army aviators to prepare for locating and recovering isolated personnel.

While the 36th CAB is in the "run stage" of training/operating by putting a variety of skills and knowledge to use, the aircrews began training with the combat survival evader locator (CSEL) and other survival gear at Fort Hood in a downed aircraft scenario. Using the CSEL's various capabilities, Soldiers were able to communicate and move to a linkup site for the ride to a safe location while evading enemy forces.

The survival instruction then evolved to the maritime environment at Fort Rucker utilizing helicopter overwater survival training, commonly known as "The Dunker," preparing the aircrews for overwater flight and the possibility, however remote, of having to ditch at sea.

COL Rick Adams, commander of the 36th CAB, said, "At a minimum, going through the dunker training and being exposed to that uncomfortable element of being in the water, upside down, and evacuating the aircraft builds confidence for the aircrews when they are 70 to 100 miles off shore."

A graduate-level exercise recently was held off the coast of Kuwait as six Soldiers were flown out to the USS San Antonio, a class of amphibious landing platform capable of accommodating both rotary-wing aircraft and smaller naval vessels. The crew and passengers were then transported a few miles away from the ship in a small rigid-hull inflatable boat .

Wearing air-warrior survival vests and helmets, the Soldiers then jumped off the boat. This particular scenario simulated a "power-on" ditching scenario where the crew dropped the four passengers off

ARABIAN GULF (May 22, 2013) — A Blackhawk helicopter from C Co., 2-238th MEDEVAC (INARNG) lowers a rescue basket to the waiting "swimmers" while pyrotechnic flares mark their location in the Arabian Gulf. (U.S. Army photo by Maj. Randall Stillinger, 36th Combat Aviation Brigade Public Affairs)

before moving a safe distance away and jumping in the water themselves.

After employing air-warrior life preservers, the pilot pressed the "Immediate" (IMM) button on the CSEL and started the recovery process. As a Blackhawk from the 2-238th and a Navy SH-60 Seahawk were spotted on the horizon, the other pilot employed a signal mirror to guide friendly aircrews to their exact location.

Upon arrival on the scene, the crews of the two recovery aircraft employed green sea dye and pyrotechnic flares to mark the Soldiers' position. Utilizing the assistance of a Navy rescue swimmer, all crew members were hoisted one-by-one into the aircraft and then flown back to Camp Arifjan where they received simulated medical care and began a realistic reintegration process.

The brigade has also taken advantage of other assets in the region to test and train on various TTPs. Utilizing joint surveillance and target attack radar system (JSTARS) aircraft, Apache crews are able to communicate and receive information about potential targets in the area. Flown by the U.S. Air Force, JSTARS allows Apache pilots to gain situational awareness outside of their immediate sensor and visual area, providing them information on military ground activity detected by its sophisticated radar.

Apache crews have also been honing ground-breaking tactics employing unmanned aircraft systems (UAS) to expand their capabilities in a joint environment. Utilizing manned-unmanned teaming, pilots are able to see what the UAS is looking at while also relaying imagery to ground units, other aircraft, or to a ship in the Arabian Gulf.

All of these training events, including those with our Gulf Cooperation Council partners, have helped expand the capabilities of the 36th CAB with an eye towards the future of Army Aviation in a joint maritime environment.

"Over the past two years, including this unit, we've deployed ten separate elements of our brigade into Iraq, Afghanistan, or Kuwait," Adams said. "It's been a very big challenge for us."

While Soldiers from the brigade stand ready to adapt to whatever missions they are assigned, long-term regional security remains their ultimate goal.

"The mission in Kuwait is absolutely new ground for us. It's not the launch-recover-launch into a sector to do the fighting," Adams said. "We remain skilled in those areas, but we're working very hard in new avenues, such as the partnership relationships with other countries to see how we can best approach the security needs of the region."

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Acronym Reference

CAB - combat aviation brigade	**GSAB** - general support aviation battalion	**MOU** - memorandum of understanding
CENTCOM - Central Command	**IMM** - immediate	**TTP** - tactics, techniques, and procedures
CSEL - combat survival evader locator	**JSTARS** - joint surveillance and targeting attack radar system	**UAE** - United Arab Emirates
DLQ - deck landing qualification	**KAF** - Kuwaiti Air Force	**UAS** - unmanned aircraft system

JOINT READINESS TRAINING CENTER OBSERVATIONS

OF THE AIR DEFENSE AND AIRSPACE MANAGEMENT/ BRIGADE AVIATION ELEMENT

MAJ Matthew A. Hodges and CW3 Wesley M. Dohogn

Air defense and airspace management/brigade aviation element (ADAM/BAE) shops are minimally staffed, untrained, and remain challenged to synchronize the combined arms fight. Learning to manage limited assets efficiently is one of the most important training objectives to become a more effective fighting force. To do this, units must be taught to plan and execute missions that bring aviation assets into the ground scheme of maneuver with synchronized intelligence, surveillance, and reconnaissance (ISR); close air support (CAS); and fire support. For the Army to continue to support current obligations while simultaneously preparing for future decisive actions, it must address three ADAM/BAE issues: manning, the lack of trained ADAM/BAE shops, and the struggles these shops face in successful air-ground integration.

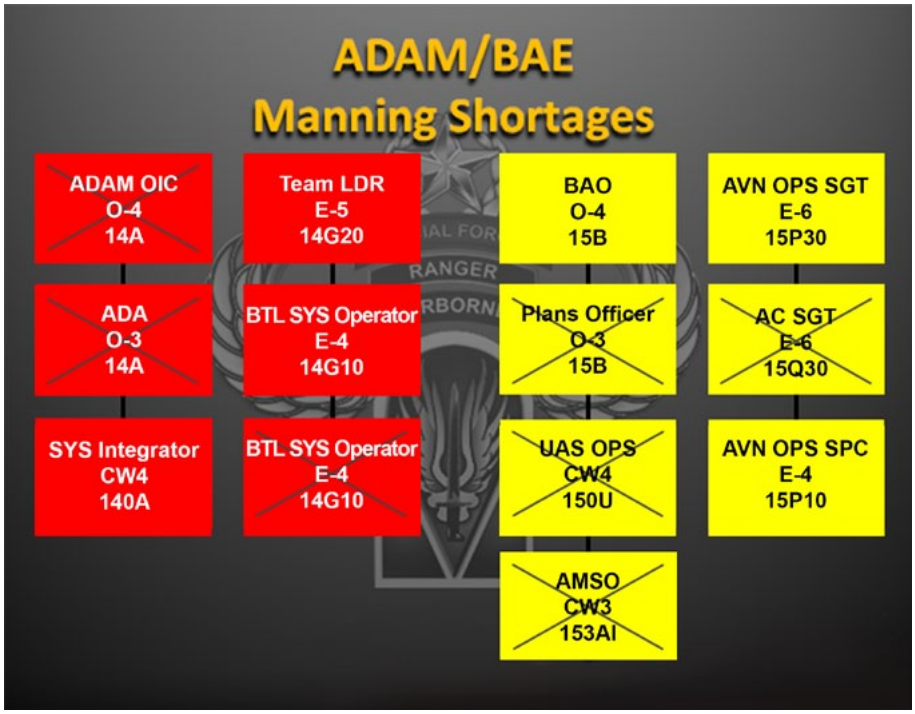
Manning

No ADAM/BAE shop has arrived at the Joint Readiness Training Center (JRTC) fully manned in more than a year. Nine out of ten shops have been manned at 50% strength or less, and no shop has been at more than 65% strength. Under manning appears across all ranks. (Figure 1 provides the proper manning of an ADAM/BAE shop and how they are commonly staffed today.) The root of this shortage must be identified by Aviation and Air Defense Artillery (ADA) branches. Is the Human Resources Command (HRC) unable to find sufficient manning during Army Force Generation and drawdown, or do ADAM/BAEs not warrant a high enough priority for full manning?

A second HRC issue lies in the speed with which units are broken down post-deployment. An entire ADAM/BAE shop will receive orders for a permanent change of station shortly after a deployment, leaving no experienced personnel in the shop for continuity. When few inbound personnel have been formally trained, this loss of experience degrades critical skills at the brigade staff level.

A third manning issue is the almost complete absence of officers in ADAM/BAE shops. In units participating in JRTC rotations over the last 12 months only one rotation in ten had a company grade or higher ADA officer. While every rotational unit has had the requisite aviation major brigade aviation officer (BAO) only one has had an aviation captain or warrant officer. Without the depth in the ADAM/BAE officer staff, the brigade's ability to monitor current airspace and air defense operations while simultaneously planning future operations is degraded. For current operations, this means management during wide-area security and counterinsurgency operations is difficult at best; for decisive actions, the risk of fratricide is greatly increased. For future operations, officers are stretched too thinly to synchronize assets into the brigade scheme of maneuver while devoting the necessary attention to tactical planning.

Faced with these limitations, today's leaders should be applauded for their accomplishments to date. However, proper manning and training is paramount as the Army shifts from wide-area security and counterinsurgency operations back to the decisive action focus in preparation for



the unknown. The ADAM/BAE manning shortage can be addressed by borrowing experienced aviation warrant officers and captains from division combat aviation brigades for their corresponding brigades. With four battalions of experienced aviators to select from, overall manpower loss would be minimal. Warrant officers should be at least CW3s, and captains should be post-command. If this is not an acceptable solution, ADAM/BAE personnel must be retained longer in current positions to prevent a simultaneous turnover.

Training

Training consists of two key issues: course attendance and home-station rehearsals. According to the Fires Center of Excellence, less than 5% of personnel assigned to ADAM/BAE shops have attended the ADAM/BAE course. Most units rely instead on a few personnel with deployed ADAM/BAE experience, if they are fortunate enough to have such experienced personnel. The reality is that many units deploy without trained or experienced personnel, opening the door for airspace mishaps or fratricide. As deployment experience vanishes, ADAM/BAE shops will become incapable of safely managing airspace and air defense operations during future decisive action missions.

In the last 12 JRTC rotations, on average, only one member of an ADAM/BAE shop has attended the course. Of those who have attended, more than half have never deployed as part of an ADAM/BAE. The result is a mix and match of partially capable ADAM/BAEs missing the foundational and doctrinal knowledge to safely manage airspace on their own. Multiple safety backstops are required for a level of oversight they are unlikely to find in the current theater and will not find in future decisive actions.

The HRC and Centers of Excellence are ultimately responsible for the level of experience provided to gaining units, with ADAM/BAE course attendance being the first step to address. Personnel slated for ADAM/BAE assignments should be sent to the course while en route to their new duty station. Course attendance is especially important for NCOs, as they are the continuous leadership presence on the current operations floor. If funding becomes an issue, a mobile course should be designed for training at home station instead of enroute temporary duty.

The second training issue facing ADAM/BAE shops is the lack of home station training. No unit has arrived at JRTC competent to manage airspace. Each shop has been heavily reliant on JRTC exercises to gain proficiency on systems and processes. This is because training exercises at home station are too narrow in scope and too shallow in depth to adequately simulate the airspace in today's operational environment. One major solution to this problem is the creation of a critical task list (CTL). Currently units must spend hours digging through manuals and the Army Training Network in their attempts to consolidate a training plan. Even then, anything created is still primarily based on each unit's limited experience. The Fires and Aviation Centers of Excellence, together with the Combined Training Centers, must produce the CTL and a home-station training template. Further, once these training guides are developed, divisions must staff these training exercises with the requisite ground maneuver elements, aviation, ISR, and CAS for maximum training effectiveness. When large-scale exercises are not practical, ADAM/BAE and fires systems can be used to create simulated missions, though these simulated missions are no substitute for combined arms exercises.

Air—Ground Integration

Finally, air-ground integration (AGI) consistently challenges each unit at JRTC. The problems in AGI today center on three areas: personnel, planning, and education. The key link between all these areas is the role of the BAO as educator.

The first problem hampering AGI efforts is commanders' choices in S-3 air personnel. Battalions most often appoint a lieutenant or non-commissioned officer, sometimes from the Field Artillery branch, but often Infantry, as their S-3 air. These junior, untrained personnel rarely understand the guidance provided by the BAO or brigade operations synchronization and are unable to request or task assets correctly. Compounding this weakness, battalion commanders often appoint a junior infantryman who lacks the experience to understand the significance of airspace management and integration of assets as the brigade liaison officer. These two inadequate personnel selections mean that maneuver battalions do not request assets for forecasted missions appropriately, forcing them into a reactive posture and perpetual state of re-tasking. This problem is especially apparent at JRTC where S-3 air personnel are commonly appointed as an afterthought on the day the unit arrives.

The next challenge for AGI is planning. Poor integration among aviation task forces, battalion staffs, and the brigade targeting process means that brigades typically

struggle at JRTC to fully utilize and actively employ aviation assets. In an ideal world, brigade staffs would be receiving so many battalion requests for aviation support that they would be regularly denying requests they are unable to fulfill. Instead, at JRTC we have repeatedly observed a communication breakdown from line units up to their brigade whereby the brigade struggles to determine which missions could benefit from aviation assets. In the dark in this way, the infantry brigade staff can do little aviation forecasting; so, the aviation task force must predict asset usage based on its limited knowledge of future operations. The unfortunate result of these uninformed decisions is underutilized lift assets or self generated aviation-internal reconnaissance and attack missions. Given the nature of our fight today and the future of our fight tomorrow, aviation and maneuver forces must learn to work together to maximize productivity.

The problems of inexperienced personnel and poor planning intersect in inadequate products. This means that today, aircrews often execute missions with incomplete airspace control measures (ACM) and fire support control measures (FSCM) or overlays, maneuver graphics, obstacle plans, or an accurate enemy situational template. Likewise, rarely do ground forces understand the assets available to them during their mission window. It is primarily the responsibility of the ADAM/BAE cell to remedy these two failures through dissemination of products and plans to user level, both ground and air. It is imperative that preplanned ACMs and FSCMs be deliberately included in maneuver battalion planning to become airspace control order inputs for universal dissemination.

How are the serious problems stemming from inexperienced personnel and underutilized aircraft solved? They are solved through education. The education of brigade and battalion personnel is an ADAM/BAE mission essential task that has been greatly neglected. From understanding doctrinal tasks to the absence of a deliberate re-tasking process to poor analysis for reconnaissance and security asset requests, maneuver forces arrive at the JRTC with a complete lack of understanding of air-ground operations. This is partly aviation's fault: each unit has its own standing operating procedures and tactics, techniques, and procedures. For example, air mission coordination meeting checklists may be as little as one page for some units and as long as ten pages for others. Maneuver units understandably have a difficult time mastering what is required of them when their requirements vary so dramatically depending on which aviation task force is supporting them. Additionally, as doctrine on man-unmanned teaming evolves, infantry and aviation must achieve shared understanding. The answer is for the United States Army Centers of Excellence of Aviation, Maneuver, Fires, and ADA, in conjunction with division and combat aviation brigade commanders, to come together to produce a minimum standard for mission essential information. Without this unified standard, BAOs cannot begin to train their brigade's forces on AGI.

For the Army to build successful ADAM/BAE shops, and thereby build safe and synchronized combined arms operations, it must enact short-term and long-term solutions to AGI issues. In the short-term, maintaining deployment experience levels within ADAM/BAE shops will provide continuity until attendance at the course and home-station training are improved. The long-term solution requires broad dissemination of an ADAM/BAE CTL; large-scale, fully-staffed home-station training; a proper balance of manning experience; and standardized AGI training. Fighting a decisive action in the current vacuum of understanding will result in inefficient operations, damaged or destroyed aircraft, lost aircrews, and endangered recovery forces. Fortunately, with a clear emphasis on solving these problems, AGI can become an integrated part of today's Army.

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CW3 Wesley Dohogn is An Air Defense Artillery Warrant currently serving as a JRTC Observer/Controller/Trainer. His previous assignments include Command and Control Systems Integrator, 3rd Brigade, 82nd Airborne Division, and ADAM/BAE, 3rd Battalion 4th Air Defense Artillery Regiment, and 3rd Battalion, 62nd Air Defense Artillery Regiment. He has deployed in support of Operation Iraqi Freedom and Operation New Dawn.

Acronym Reference

ACM - airspace control measures
ADA - Air Defense Artillery
ADAM/BAE - Air defense and airspace management/ brigade aviation element
AGI - air-ground integration
BAO - brigade aviation officer
CAS - close air support
CTL - critical task list
FSCM - fire support control measures
JRTC - Joint Readiness Training Center
HRC - Human Resources Command
ISR - intelligence, surveillance, and reconnaissance

Brigade Aviation Element in the Decisive Action Fight

By CPT Jacob Lawson

While assigned to the 1-227th Attack Reconnaissance Battalion (ARB), 1st Air Cavalry Brigade, 1st Cavalry Division, I was given the opportunity to act as liaison officer to the 3rd Armored Brigade Combat Team (BCT), 1st Cavalry Division, in preparation for National Training Center (NTC) 13-03 decisive action (DA) rotation. Although I was the aviation task force liaison officer (LNO), I assumed the duties as the brigade aviation officer (BAO). The brigade aviation element (BAE) was developed during and tailored to a "fixed position" type of fight to manage aviation assets and make recommendations to the BCT commander concerning their assets. According to Training Circular (TC) 1-400, "the BAE must be manned and equipped for 24-hour operations. BAE personnel should include one Aviation branch major, one Aviation branch captain, one Aviation branch chief warrant officer, three (CW3) tactical operations (TACOPS) officer, one Aviation operations (15P) sergeant first class, one Aviation operations (15P) staff sergeant, and one Aviation operations (15P) specialist." Our cell was significantly undermanned; comprised of three 1-227thARB LNOs (including myself as the acting BAO), two organic 3/1ABCT 15Ps, one Air Defense Artillery battle management system operator, and one Air Defense Artillery officer.

As our cell experienced a lot of on-the-job training, our findings throughout NTC 13-03 decisive action rotation indicated that there is limited to no doctrine outlining BAE operations in the DA environment. Battle-tracking, airspace command and control, air mission request (AMR)/attack mission request (ATMR)/airspace coordination measures request (ACMR) processing, and the general continuity of the BCT airspace management proved very difficult while jumping from one tactical assembly area (TAA) to another. It became very apparent that the table of organization of equipment structure, personnel, and equipment might not be sufficient to support a decisive-action scenario as compared to a counterinsurgency fight. The necessity to maintain 24-hour operations in the DA fight significantly increases the personnel requirements. The lack of doctrinal guidance in the selection of personnel and equipment to occupy the tactical command post (TACCP) versus the tactical operations center (TOC) stretches the air defense airspace management (ADAM)/BAE thin.

The delineation of BAE duties between the TACCP and TOC was something we figured out on the fly. As the LNO and acting BAO, much of my time was occupied with the military decision-making process, leaving my CW3 TACOPS officer to absorb 18 to 22 hours of aviation current operation duties daily. We were able to sustain this throughout a 30-day rotation, but prolonged operations would certainly expose this shortage of personnel within the BAE. From the time the BCT TOC had to move until we were established in our new TAA with connectivity on all systems, the 52nd Infantry Division airspace control (AC) cell was integral to airspace management in addition to our steady state tasks. The ADAM/BAE is undoubtedly meant to be operated out of a fixed location. The lack of mobile systems degraded the cell's situational awareness to the point that we could not fulfill our obligation to any of the airspace users or units requesting aerial assets for approximately 24 hours once the decision was made to jump TAAs. The second and third order effects were multiple failures to process small, unmanned aircraft systems requests, tactical unmanned aircraft systems requests, and AMR/ATMR/ACMRs in those 24 hours. Ultimately, the combined arms battalions suffered because of our shortfalls following a TOC jump. When the TACCP and TOC conducted battle handovers prior to relocating, there was insufficient personnel and equipment to carry out our duties and the division airspace managers were burdened with our obligation. I am aware that combat training center (CTC) rotations condense hypothetical scenarios to maximize training and that the amount of BCT movement throughout the operational environment in a rotation might not replicate a real-world situation. Having said that, relocating the

BCT TOC and TACCP exposed the lack of doctrinal guidance for an ADAM/BAE in the DA environment. Crucial to the evolution of the ADAM/BAE in the DA capacity is the experimentation of manning and equipment placement throughout DA CTC rotations and documentation of successes and failures. Doctrine and training have not kept up with current operations and require special attention.

First and foremost, BCT commanders and supporting staff must ensure that the ADAM/BAE is fully staffed and trained. There may be a lack of emphasis placed on the importance of this cell because it is not typically task saturated until training or combat operations commence and it becomes an afterthought. During operations, it would be my recommendation that the ADAM/BAE does not position personnel in the TACCP. According to TC 1-400, "The BAE is a planning and coordination cell whose major function is to incorporate 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, airspace planning and coordination, and synchronization with the air liaison officer and the effects coordinator. The BAE also coordinates directly with the aviation brigade or the supporting aviation task force or detailed mission planning." The best way to accomplish these tasks and responsibilities are from the most static location, the BCT main. The BAE is fully capable of carrying out these duties from a fixed location in the DA fight. It is essential to the BAEs efficiency that it can maintain its structural integrity within the main. Its structure should be able to support 24 hour current operations, future operations, and plans. Keeping the BAE cell fused with the main will enable it to maintain the best communications with the supporting aviation task force or the combat aviation brigade, conduct comprehensive planning to support the maneuver commander's intent, intelligently manage the use of precious assets during both current and future operations, and above all, be better able to maintain situational awareness within the BCTs operational environment.

Typically, the ADAM/BAE of a BCT will have procedural control of the BCT's airspace from surface to the coordinating altitude. As simple as it sounds, it can be an excruciating task in the DA environment and is nearly impossible while moving the BCT TOC from one location to another. A mobile ADAM command post operating on an independent wireless-type network might be "a way" to alleviate this loss of situational awareness while on the move. Until that day comes, a thorough battle handover must be completed with the owning division AC cell prior to relocation

of the ADAM/BAE. The division AC must be ready to reassume control of the BCTs small slice of airspace. In addition, the division should be charged with receiving and processing AMRs/ATMRs/ACMRs to enable continuity of operations for the airspace users in need of management and requesters in need of air assets. The 52nd ID AC at Fort Irwin, CA did just that during NTC 13-03; however, the problem I saw was that they did this out of experience from many repetitions of transient units. I never could identify the doctrinal support stating that division AC must do this. Additional food for thought is that every division AC unit may not be as capable as the 52nd ID. The two keys to success throughout the frequent transfer of responsibilities were constant communications between the 3/1ABCT ADAM/BAE and the 52nd ID AC (JABR/secure texting was the preferred method) and a set of common airspace user request formats available through a shared network. Situations experienced during a CTC rotation might not reproduce every challenge an ADAM/BAE will encounter in decisive action operations and it might not expose all the challenges that will be faced in real-world operations. Keeping this in mind, it is evident that refining doctrine to reflect tactics, techniques, and procedures for decisive action is going to be a crucial element in the development and relevance of the ADAM/BAE.

CPT Jacob Lawson is currently attending the Aviation Captain's Career Course Fort Rucker, AL. He has served as the aviation task force liaison officer and performed simultaneous duty as the brigade aviation officer to the 3rd Armored Brigade Combat Team, 1st Cavalry Division. CPT Lawson served as the 1-227th Attack Reconnaissance Battalion Assistant Operations Officer and AH-64D Scout Platoon Leader and deployed to Afghanistan during Operation Enduring Freedom 11-12.

Acronym Reference

AC - airspace control
ACMR - airspace coordination measures request
ADAM - air defense airspace management
AMR - air mission request
ARB - attack reconnaissance battalion
ATMR - attack mission request
BAE - brigade aviation element
BAO - brigade aviation officer
BCT - brigade combat team
CTC - combat training center
DA - decisive action
LNO - liaison officer
TACOPS - tactical operations
TAA - tactical assembly area
TACCP - tactical command post
TOC - tactical operations center

JRTC Decisive Action:

Challenges to COIN Experience Based Operations and Opportunities for Success

By LTC Neil A. Reilly, Jr., LTC Barton L. Johnke, and MAJ Daryl Von Hagel

In October 2012, the Army Training Strategy committed to multi-echelon collective training in a time of transition, uncertainty, complexity and austerity. The Army sought to develop operational adaptability focused on two central tenets of unified land operations:

- Train to accomplish specific tasks and requirements of decisive action
- Train for effective application of mission command in unified land operations

Over a decade of counterinsurgency (COIN) has provided the greatest breadth of tactical experience since Vietnam. Successful COIN operations are typified by proficient air mission commanders demonstrating tactical and disciplined initiative to execute successful team operations across vast areas of operations. This tactical success combined with fixed-base operations in mature theaters and enduring missions resulted in an over reliance on employment of teams to accomplish steady state, deliberate and in-extremis operations.

Observations and lessoned learned from the Joint Readiness Training Center's recent Decisive Action Training Environment (DATE) Rotation 13-01 and previous full spectrum operations observations highlight inherent training challenges for any organization. The resultant comments were provided to the combat training center audience to enable additional focus during home-station training using the Army Universal Task List (ART) and measures of performance. The following focus areas are covered in this article:

- Mission command (MC) (ART 5.0).
- Intelligence (ART 2.0).
- Movement and maneuver (ART 1.0).

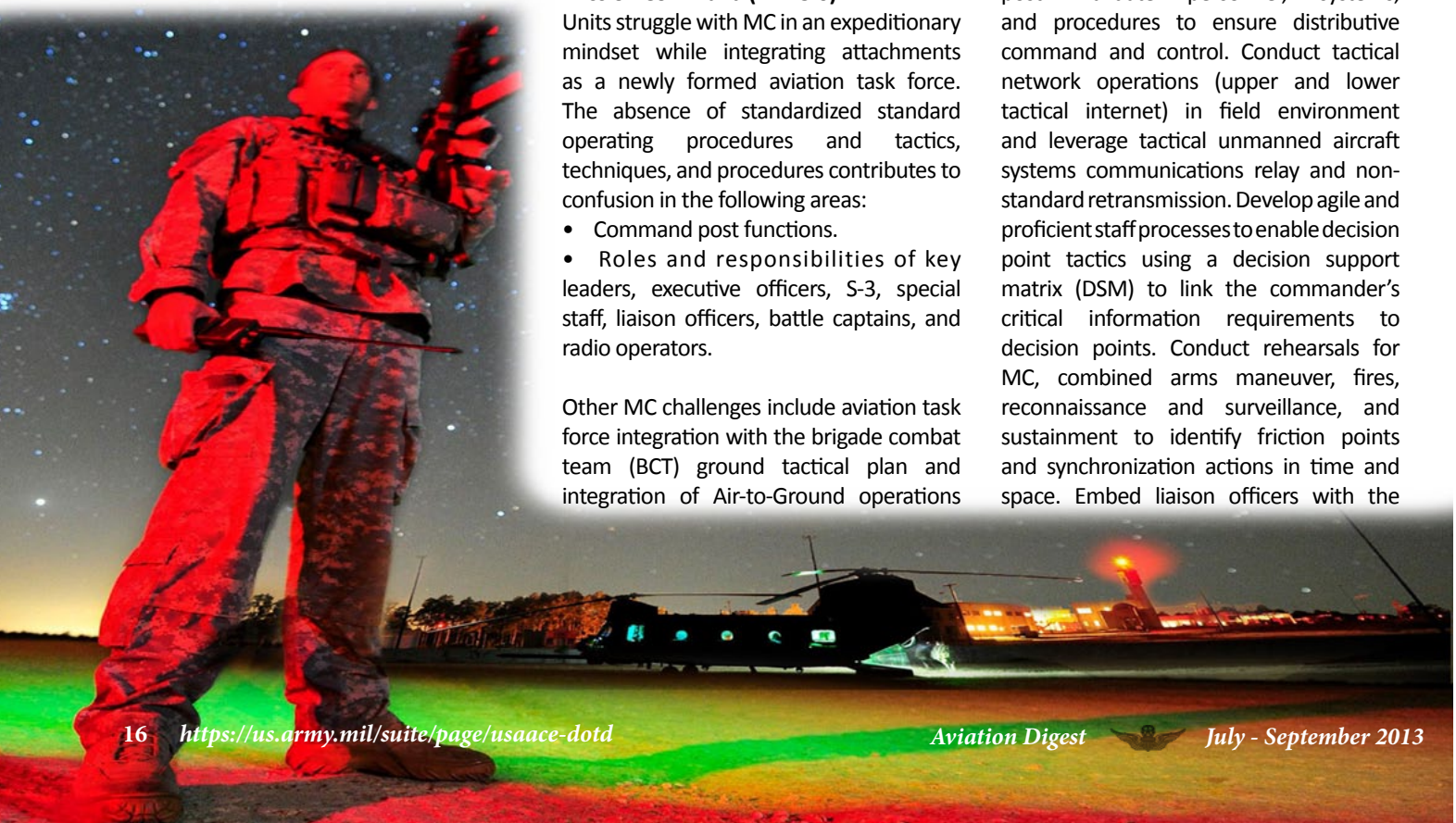
Mission Command (ART 5.0)

Units struggle with MC in an expeditionary mindset while integrating attachments as a newly formed aviation task force. The absence of standardized standard operating procedures and tactics, techniques, and procedures contributes to confusion in the following areas:

- Command post functions.
- Roles and responsibilities of key leaders, executive officers, S-3, special staff, liaison officers, battle captains, and radio operators.

Other MC challenges include aviation task force integration with the brigade combat team (BCT) ground tactical plan and integration of Air-to-Ground operations (ART 3.3). Echelonment of forces at decisive points is not identified through the operations process to enable the tenets of mass and tempo and retain the initiative. Units do not establish and maintain the digital and voice communications hierarchy necessary to execute distributive command and control, operating in a field environment. The absence of liaison officers to facilitate lateral and vertical collaboration among adjacent units inhibit mission planning. The inability to identify emerging requirements and allocate critical resources becomes readily apparent during periods of transition between security, defense, offense, and stability.

Reversal Recommendations: Emphasize and practice MC on the move by enabling concurrent operations for the command post and the tactical command post. Validate personnel, systems, and procedures to ensure distributive command and control. Conduct tactical network operations (upper and lower tactical internet) in field environment and leverage tactical unmanned aircraft systems communications relay and non-standard retransmission. Develop agile and proficient staff processes to enable decision point tactics using a decision support matrix (DSM) to link the commander's critical information requirements to decision points. Conduct rehearsals for MC, combined arms maneuver, fires, reconnaissance and surveillance, and sustainment to identify friction points and synchronization actions in time and space. Embed liaison officers with the



brigade combat team (BCT) and adjacent units to enable effective collaboration with higher and adjacent units to capitalize on opportunities inherent with transitions to execute aerial movement, resupply, zone reconnaissance, movement to contact, exploitation, and pursuit operations.

The Intelligence Warfighting Function (ART 2.0)

Aviation units struggle with mission analysis outputs to integrate into the BCT's collection plan. This includes lack of emphasis to conduct intelligence preparation of the battlefield (ART 2.2), overlooking terrain analysis, not developing situation templates, event templates, or linking development of priority intelligence requirements (PIR) to the DSM. The lack of effective collaboration to develop the named areas of interest (NAI) reconnaissance scheme with the BCT (ART 2.3) prevents effective reporting to confirm enemy courses of action. Multiple collection assets cause confusion on priorities of reconnaissance effort and result in intelligence gaps or redundant collection that inherently increases tactical risks through inefficiency.

Reversal Recommendation: Commanders and staff should hold intelligence war fighting function seminars for all personnel focusing on DATE 2.0, the Worldwide Equipment Guide, and the TC 7-100 Hybrid threat to improve understanding. They should hold additional military decision making process exercises to improve understanding of doctrinal collection linkage to PIR, essential elements of information and NAI. Integrate aviation intelligence staff officer (S-2) sections with the BCT and maneuver battalions during mission analysis to establish a shared frame of reference for intelligence, reconnaissance, and surveillance to include aviation in the BCT scheme of maneuver.

Movement and Maneuver

Collective training proficiency necessary to echeloned maneuver to conduct tactical enabling tasks (Army Doctrine Reference Publication 3-90) at company and troop level has atrophied. Companies and troops need planning cells to facilitate parallel planning and bottom-up refinement beyond team level. Flight profiles used in COIN to mitigate tactical and accidental risk become prohibitive during DATE against a near peer, hybrid threat employing radar and generation II/III shoulder fired missile systems. Aviation task forces and companies need practice in supporting a deliberate defense and synchronizing maneuver while enabling clearance of fires and airspace deconfliction - to support the BCT scheme of maneuver (ART 1.2/7.1). Medical evacuation planning must account for a near-peer threat with a deliberate plan that increases survivability and overall effectiveness of casualty evacuation instead of point of injury evacuation. Most notably, attack and cavalry companies/troops lacked proficiency in developing the engagement area fire distribution and control measures to achieve the destruction criteria. Additionally, sustainment cells struggled to develop plans and estimates to employ logistical assets to extend operational reach and prolong endurance, effectively restricting maneuver through reduced station time for aviation assets.

Reversal Recommendation: Practice platoon and company collective training at terrain flight altitudes, utilizing terrain to mask movements from enemy radar and long range acquisition. Conduct company battle drills to develop subordinate leaders, develop proficient planning cells, and enable effective unity of command at the platoon and company level. Train individual and collective warrior skills to facilitate off-fixed site operations, including convoy, quartering and advance party operations in order to occupy an assembly area.

Conclusions

In the past decade, Army aviation been a crucial partner in COIN and stability operations in vastly different theaters against equally different enemies. This experience offers an excellent launch pad for the future as long as we adapt to the different challenges replicated in DATE. Aviation is a maneuver force, one we have not used as such since 2003. Our enemies in Iraq and Afghanistan were deadly; but, for the most part, they did not even approach our level of sophistication. However, the hybrid threat does and that threat is especially critical to aviation. We must prepare for this threat. To that end, the discussion above highlights what we believe are the most critical areas to emphasize.

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LTC Johnke is the JRTC Aviation Division Executive Officer. Among other duty positions, he has served as the 3-158th Assault Helicopter Battalion, 12th CAB Executive Officer and S-3 in support of Operation Iraqi Freedom and Operation New Dawn. LTC Johnke is qualified in the UH-60.

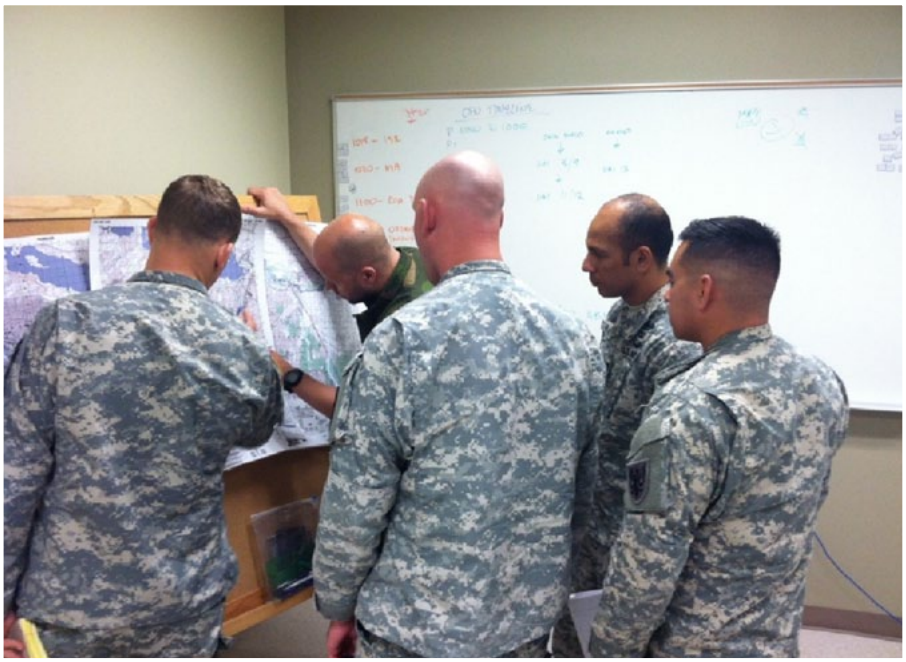
MAJ Von Hagel is the JRTC Aviation Division S-3. Among other duties, he served as the 4th Brigade Combat Team (Airborne), 25th Infantry Division Brigade Aviation Element during Operation Enduring Freedom. MAJ Von Hagel is qualified in the OH-58D.

Acronym Reference

ART - Army Universal Task List	**DSM** - decision support matrix
BCT - brigade combat team	**MC** - mission command
COIN - counterinsurgency	**NAI** - named areas of interest
DATE - decisive action training environment	**PIR** - priority intelligence requirements

Cavalry Leaders Course: Preparing to Fight the Next War in a Combined Arms Setting

By CPT Brian Harris



Students plan their squadron mission to support a forced entry operation. This small group includes officers from Aviation, Armor, Infantry, an Army National Guard squadron command sergeant major, and an officer from Norway.

Execution of the more than 10 year long "War on Terror" has increased the interaction between Army aviation and ground forces unseen, arguably, since the Vietnam War. Soldiers at all tactical levels are not only familiar with the basic capabilities of Army aircraft, and indeed many joint/ coalition aircraft, but know how to use them in hasty, unplanned response to ambushes or to organize their support for convoy security through hostile, insurgent-infested territory. However, as the Army's commitment to wide area security operations in Afghanistan winds down, we run the risk of returning to old ways and drawing lines between the ground and air components in training and integration. Opportunities to maintain the relationships forged in combat are critical in maintaining our proficiency in air-ground integration. While rotations to the National Training Center and the Joint Readiness Training Center, as well as home station unit training, will still provide this opportunity, much of this training is in the practical application of tactics, with ad hoc integration of aviation and ground officers working together on single problem sets. While important, we also must expand on opportunities throughout officer development to not only work together during operations, but to better understand how the "other half" lives. While exchanges between the various branch captain career courses exist, the Cavalry Leaders Course (CLC) provides another opportunity for both commissioned and warrant officers to work side-by-side with their ground-based brethren to hone their understanding of the tactical and operational capabilities and limitations of employing the Army in a combined arms scenario.

The Cavalry Leaders Course

The CLC is a three week course that focuses at the troop and squadron level and trains primarily Armor and Infantry Branch officers in the doctrinal employment of cavalry units in both combined arms maneuver (CAM) and wide area security (WAS) Missions. For 25 years, CLC has operated as a functional course within the U.S. Army Armor School, and was the first Armor School functional course to operate at Fort Benning, GA, after the recent Base Realignment and Closure Commission directed move and consolidation of Armor and Infantry into the Maneuver Center of Excellence in 2011. It trains over 200 officers and non-commissioned officers (NCOs) a year, including Marines and Allied officers. The CLC is unique in that it is branch immaterial and is open to senior NCOs, warrant officers and commissioned officers, allowing an unprecedented peer level integration of experience, concepts, and tactics between the branch and ranks represented in the course. Together, students learn the doctrine behind cavalry operations as well as practice planning these operations together. Collaboration between the branches and ranks is crucial in maintaining our current lethality and allowing us to learn more about the other capabilities within the Army as a whole, opposed to a narrow-minded focus on our own branch and mission. This collaboration is reflected in the CLCs design.

The CLC uses the experiential learning method and is built around the Adaptive Soldier Leader Training and Evaluation

concept, meaning that the course is student-focused rather than instructor-focused. Students will not simply sit and be inundated with hours of slides and lectures, but instead will interact with the instructor and the other students, discussing their own experiences, reading from doctrine and professional articles, and learning through doing as they work together in various CAM and WAS scenarios at the squadron staff and troop command level, integrating and synchronizing air and ground assets.

Course Outcomes and Design

The CLC is built around students achieving particular outcomes and demonstrating proficiency and understanding in the course content versus simply being evaluated by a checklist. These outcomes include the synchronization and employment of supporting assets, recognizing the changing elements in a situation, communicating tactical situations effectively, and demonstrating the skills and knowledge fundamentals required to be a professional cavalryman. The course stresses students to apply critical thinking to a variety of tactical scenarios, each one designed to assess the students' understanding of the content as well as introducing them to new situations and stressors. While each class may create a different solution to the tactical problem, the answer is not the end-state; instructors watch for how the students think through the problem and use available resources to come to their conclusions. A successful cavalryman must be able to operate in a time constrained environment with limited guidance and information, and this is the environment created by the CLC instructors and course design.

Course Cadre and Student Requirements

The CLC itself is structured around the combined arms mentality, including its cadre. At present, the course is made up of four officers; two Armor officers, one Aviation officer and one Australian Cavalry exchange officer. It routinely conducts mobile training teams across the Army and Marine Corps, as well as supporting the National Training Center and the Joint Multinational Training Center Operations Groups, learning firsthand what tactics, techniques and procedures are being used and integrating them with the course material taught.

Though the typical CLC student is a recent career course graduate captain, it also trains students from across the Active Army and National Guard, from junior staff officers, command sergeant majors and even officers slated to take command of cavalry squadrons. Warrant officers are also eligible, with CW3s or senior CW2s, usually aviation mission survivability tracked, as the typical population attending. For the Aviation branch, the opportunity for warrant and commissioned officers to work together in a "schoolhouse" environment is unmatched, allowing each to share perspectives and a unique learning experience. Additionally, the course allows aviators to work directly with their ground-based brethren resulting in enhanced mutual understanding of capabilities and limitations for both components. The result is an aviator who has had the opportunity to work collaboratively with ground component officers and NCOs, as well as fellow aviators of varying ranks and platform qualifications, focused on the planning and resourcing of cavalry operations in support of CAM and WAS missions.

With the current fiscal constraints being imposed on Army aviation units, flight hours and training focus will likely be oriented on progression flights and maintaining currency. This can create a gap in training opportunities for aviation and ground forces, with large scale training events being the only chance for this collaboration to occur. CLC, while short in duration, is an opportunity for aviators to interact in a combined arms setting and focus on the integration and planning of future combat operations. It also provides a broader perspective to Aviation officers and leaders through their exposure to planning ground operations and integrating with the other branches, allowing them better insight into how their actions support the greater operation.

CPT Brian Harris is the Cavalry Leaders Course manager and primary instructor at the United States Armor School, Fort Benning, GA. CPT Harris served as Commander A Troop, 1-17 Cavalry, 82nd Airborne Division, Fort Bragg, NC. While in the 1-17 Cavalry, he has also served as the Assistant S-3 Plans Officer and as Tactical Operations Officer/Pilot-in-Command. Prior to attending flight school, CPT Harris served as a mortar platoon leader in South Korea. CPT Harris has completed deployments to Afghanistan and Iraq. He is qualified in the OH-58D.

Acronym Reference

CLC - Cavalry Leaders Course
CAM - combined arms maneuver
WAS - wide area security
NCOs - non-commissioned officers
ASLTE - Adaptive Soldier Leader Training and Evaluation

TACTICAL DECEPTION & ARMY AVIATION

LTC Steve Jobson

Tactical deception is a formidable asset to the Army aviation commander into the future–just as it has been in numerous successful military campaigns throughout the history of modern warfare. In the future, the science involved in combined arms maneuver will be substantial. However, our capability in such areas as air defense, command and control, electronic warfare, signals intelligence, and cyber warfare may be matched by a modern near-peer adversary. In this environment, the Army aviation commander must possess more than simply an understanding of the science of the tactics which he or she chooses to employ.

There are many examples of commanders at the operational level of war employing effective deception to target their enemy's decision-action cycle in support of a decisive event in their campaign. The Allies in the lead up to the invasion at Normandy in World War II employed a heavy supporting effort using deception to convince the German Army that Place de Calais would be the location of the amphibious assault, that it would be weeks after the actual D-Day, and that significant landings would also occur in Norway and Sweden in support. At the time of invasion, the Germans were still not convinced of it's authenticity as the Ally main effort.

Forward to Gulf War and the concerted effort by General Swarzkopf to convince the Iraqi Army that the main assault would be directly into Kuwait and include a significant amphibious operation. Massive U.S. Marine Corps and special forces amphibious rehearsals were committed to reinforce this concept. At the time of the invasion the Iraqi Army had committed six divisions to guard the beaches and had their backs and flanks to the Ally 'left hook' from the west. The Iraqis had been deceived.

Deception is defined in Joint Publication 3-0, Joint Operations as: "Those measures designed to mislead the enemy by manipulation, distortion, or falsification of evidence to induce the enemy to react in a manner prejudicial to the enemy's interests."

Deception is highly relevant to Army Aviation, particularly into the future as the U.S. Army transitions to a focus on preparedness against a modern threat with highly capable lethality, networking, and mobility. The United States strategic pivot to the Pacific and challenge of anti-access/area denial graphically underscore the necessity to enhance this level of preparedness. Over the last decade, while the United States and its allies have methodically taken apart Al-Qaeda and its affiliates in the Middle East and South-West Asia, there has been a substantial proliferation of highly advanced air defense radar, networking systems, and long range precision missile and unmanned aircraft systems technologies further east. In this environment, Army aviation may be visible to synthetic aperture radar, high resolution optical equipped satellites, and vast networks of human spotters in the most densely populated urban agglomerates in the world. A reliance on technology to defeat the threat in such a condition of parity will no longer ensure success of the Army aviation force or those on the ground it is supporting. This is where well executed tactical deception may offer the necessary combat winning edge.

"Hence that general is skilful in attack whose opponent does not know what to defend; and he is skillful in defense whose opponent does not know what to attack."
Tsun Zsu

Types of Deception

Deception is classified into various forms by various publications. There are two forms of deception that the Army aviation practitioner should consider – offensive deception and defensive deception. Offensive are those measures taken to support offensive maneuver. They can include feints and demonstrations. FM 3-90 Tactics defines a demonstration as a form of attack designed to deceive the enemy as to the location or time of the decisive operation by a display of force. Forces conducting demonstrations do not seek contact with the enemy. A feint is defined as a form of attack used to deceive the enemy as to the location or time of the actual decisive operation.

Defensive deception aims to conceal your own forces from the enemy. The Army aviation commander's key aim is to create ambiguity in the mind of the enemy. This may be ambiguity surrounding flight profiles, forward operating base procedures, risk acceptance, and rules of engagement. We have become adept at practicing defensive deception over the last decade in Afghanistan and Iraq. Varying assault times, formations, cruise altitudes, approach, and departure points at forward operating bases and combat outposts are examples. Operating in red illumination to reduce signature is another. These are important lessons to capture. More traditional techniques of camouflage, concealment, and dummy positions remain vital to the Army aviation position on the ground in order to prevent enemy reconnaissance and accurate fires. Perhaps the most important aim of defensive deception is to mask the intent of the supported brigade combat team commander. If the enemy sees your preparations for an upcoming large scale air assault – such as rehearsals,

understands your maintenance routines, sees your defensive preparations - he may be able to identify an upcoming decisive event for the overall force which will enable him to launch his own disruption at the critical moment.

Deception Fundamentals

The practical application of deception is very much the responsibility of commanders and their staff. The commander must be determined to conceive innovative and insightful concepts of deception and the staff must ensure it is coordinated and integrated into the master campaign plan. There are a number of fundamentals that the Army aviation commander should follow when executing deception:

Identify the enemy commander you are using your deception against. The deception should be focused at the commander of the enemy unit or battle space operating system being targeted. Deception is a human endeavor designed to disrupt the decision making cycle of the enemy commander. For example, deception aimed against an enemy ground based air defense company will likely focus on the local air defense commander who decides on weapon and radar orientation. However, deception aimed at an enemy combat outpost may be directed toward the superior commander who makes the decision when to withdraw it to a retrograde location.

Understand the enemy commander's decision you wish to influence. The decision which is to be influenced needs to be understood. In other words, there must be a clear objective to your deception. In the case of the enemy ground based air defense commander, is the decision to re-orientate the weapon system disposition, or is it to prematurely open fire to expose the disposition? Eliciting each decision may require a different form of deception. Understanding the decision which needs to be influenced is vital to effective deception.

Synchronize the timing of your deception outcome. The deception must be synchronized to ensure the enemy commander's decision making cycle is influenced at the right time. The timing is either nested in the scheme of maneuver at the tactical level or the campaign plan at the operational level of war. There are two elements to timing – ensuring the enemy commander's decision action cycle is influenced at the correct time in the battle, and ensuring the time allowed to the enemy commander to orient-observe-decide-act is compressed as much as possible. The less time the enemy commander has to make a decision, the less likely a good quality decision will be made.

Ensure your deception is absolutely convincing. Deception must be absolutely convincing to the enemy. Deception is all about human psychology. The most universally accepted axiom in the psychology behind deception is that you are attempting to convince the enemy commander of something he already suspects. Prior to the commencement of the maneuver phase of Operation Iraqi Freedom in 2003, the *New York Times* and other tabloids leaked the Pentagon's supposed plan for a massive aerial bombardment campaign of "shock and awe" to set the conditions for a subsequent ground attack. This convinced the Iraqi strategic leadership of a broadly held suspicion of an air campaign preceding a land campaign in the same manner as the Gulf War and Kosovo. Instead, the coalition quickly drove deep into Iraq seizing strategic oilfields and the city of Nasiriyah before a defense could be mounted.

Integrate your deception plan with the supported formation. The Army aviation deception plan should be fully integrated into the combined arms plan. Without careful integration, a poorly understood or executed deception can confuse and/or disrupt your own organization. The aviation task Force (TF) commander and the supported brigade combat team commander should agree to the deception plan. The aviation TF staff and the brigade aviation element should coordinate deception lines of activity with the brigade staff. Further, each of the commanders and staff should seek out opportunities to enhance deception wherever possible. Deception should not be considered a necessary adjunct by staff – it should be embraced as a fundamental and enduring consideration.

Training for Deception

Training future Army aviation leaders in the art of deception can start in your aviation battalion or squadron now. There are a number of training methods you can employ.

Professional Reading List. Educating tactical deception is an excellent opportunity for Army aviation commanders to teach, coach and mentor junior officers. Excellent reading material can be accessed through the post library. Commanders can encourage professional reading, presentations, and discussions. The following is a good start point:

- *Joint Publication 3-13.4, Military Deception.* The authoritative US Doctrine.
- *Joint Publication 3-18, Joint Forcible Entry Operations.* Demonstrates the applicability of deception in contemporary joint operational maneuver in the amphibious context.
- *Decision Point Tactics (Fighting the Enemy, Not the Plan),* CTC Quarterly Bulletin, 1st Qtr, FY 97, No 97-4, by LTC P. Palmer and CPT J. Crider. Explains the value of deception operations to provide a tactical edge.
- T*actical Deception – Vital Then, Vital Now.* USAF Air Command and Staff College, Air University, by Major J. Peterson. Provides a compelling argument for training tactical deception.
- *Fortitude: The D-Day Deception Campaign*, by Roger Hesketh. A detailed examination of deception.
- *How great Generals Win*, by Bevin Alexander.
- Masters of War: Classical Strategic Thought, by Michael I. Handel. Chapter 15 provides a balanced assessment of deception.
- *American Soldier*, by GEN Tommy Franks. Pg 151 to pg 165 provides a compelling account of tactical deception and decision making.
- *The Art of War* by Sun Tzu (Dover Publications, 2002).
- *The Art of Deception in War* by Michael Dewar (David and Charles, 1989).
- *War, Strategy and Intelligence* edited by Michael I. Handel (Frank Cass, 1989).
- *Strategic and Operational Deception in the Second World War* edited by Michael I. Handel (Frank Cass, 1989).
- *Deception in World War II* by Charles

Cruickshank (Oxford University Press, 1979).

- *Practice to Deceive* by David Mure (William Kimber, 1977).
- *Master of Deception* by David Mure (William Kimber, 1980).

The U.S. Army Combined Arms Research Digital Library (http://cgsc.contentdm.oclc.org/cdm/) provides a rich repository of arguments and discussions on tactical deception from the School of Advanced Military Studies. Some interesting monographs include:

- *Hiding the helicopters; they know you are there, but what are you doing and where are you going,* by MAJ G. Butts.
- *The Decisive Step: Incorporation of deception into tactical mission planning,* by MAJ M. Scully.

Virtual and Constructed Training. Combat aviation brigade (CAB) and battalion commanders have the opportunity to train basic deception scenarios in their local Aviation Combined Arms Tactical Trainer at home station. Simple blue force versus opposing force training exercises preceded by the military decision making process and using basic products with a concept for deception can stimulate thinking and discussions.

CAB commanders preparing for a rotation through an aviation training exercise at Fort Rucker should consider requesting their employment of deception as an area for coaching and evaluation. As previously mentioned, deception is already commonly practiced in Afghanistan. Practicing the staffs' understanding of deception will improve deception activities in theatre and consolidate the understanding amongst the staff to enable them to advance their understanding and apply the principles in the next war.

Live Training. Tactical deception can be rehearsed by Army aviation routinely at home station in local support tasks or in deployments on exercises. Every collective deployment from home station represents an opportunity to practice deception planning and execution.

Aviation TF commanders preparing for a rotation through a combat training center (CTC) should consider requesting their employment of deception as an area for coaching and evaluation. The CTCs are not only a mission readiness resource for Operation Enduring Freedom, but also are at the forefront of preparing the U.S. Army for the future full spectrum of conflict.

As an Australian Army aviation regiment (US Battalion equivalent) commander, I deployed a task organized aviation TF in support of the 7th Brigade on Exercise Diamond Dollar and Exercise Talisman Sabre 11. These were the equivalent to a brigade combat team (BCT) rotation through a CTC. During the exercise, I was able to teach, coach, and train tactical deception – in particular through two collective missions.

In the first mission, the BCT was advancing toward an enemy battalion strength defensive position supported by ground based air defense (GBAD). I assessed the enemy GBAD commander to be using a linear emplacement along a north-south escarpment and orientated to the west and south west. This provided maximum field of view and coverage of the enemy battalion and its likely withdrawal route to the north on a north-south axis road. This was confirmed by an enemy GBAD engagement against an aircraft to the west of the position. My TFs mission was to destroy the enemy as it withdrew from its main defensive position to the north. To achieve this I would have to employ my company of attack helicopters in the vicinity of the enemy GBAD. My deception plan consisted of flying a series of demonstrations to the west by utility and attack helicopters at the edge of the GBAD weapon and optical range by night. Some of the missions included 7th Brigade reconnaissance patrol insertions and the helicopter demonstrations then provided mutual support to those patrols if required. The attack by the 7th Brigade occurred prior to first light which meant the enemy would withdraw in daylight. When the aviation TF attack came, the helicopters arrived from the east in daylight – the first time they employed that flight profile and exploiting the dispositional vulnerability of the GBAD troop which was orientated to the west with a heightened alertness at night.

The second mission involved a dummy air assault to complement a company attack on an enemy dismounted platoon in a village. The company would have to cross a large open space in the final stage of the attack before breaking into the urban

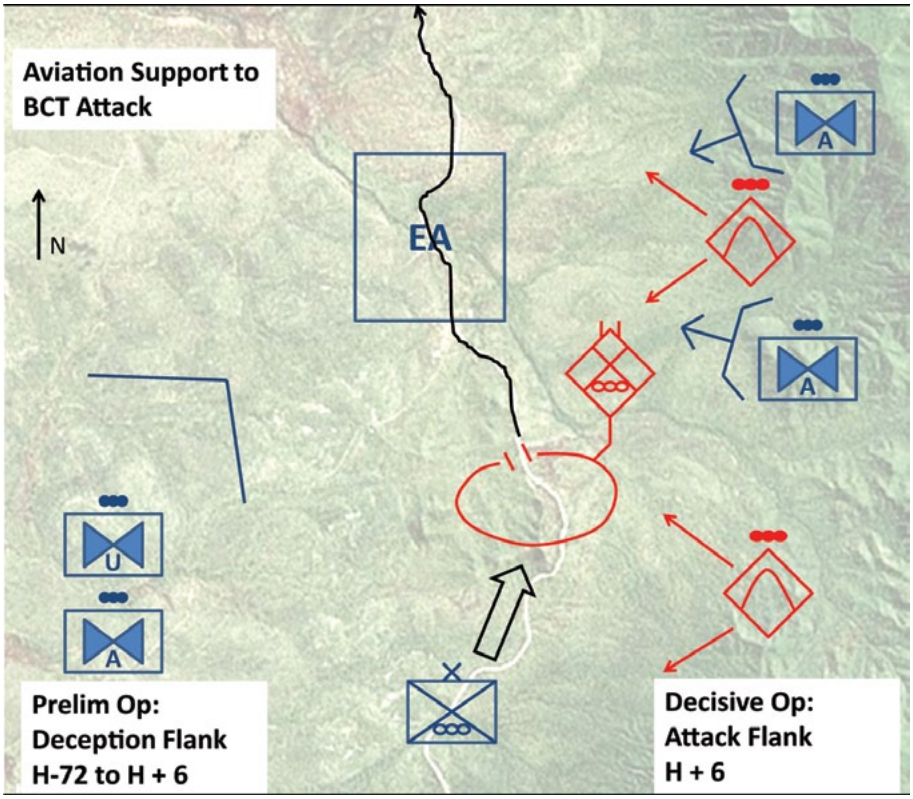


Figure 1. Aviation deception supporting BCT attack

terrain. The aim of the air assault was to convince the enemy platoon leader that the attack would come from the north-west of the village. The actual ground attack involved a lengthy infiltration by the infantry company through complex terrain and a final assault from the south east. In order to convince the enemy commander, the air assault consisted of four helicopters and conducted four arrivals into a landing zone within audible range of the village at night. The assault was timed such that the first three arrivals occurred before the infantry final assault and the fourth occurred simultaneously. The intent was to first convince the enemy that the attack was going to be an airmobile operation from the south-west, then even as the infantry commenced their assault, to continue to convince the enemy commander that this was a supporting effort so that he did not concentrate his force against the infantry.

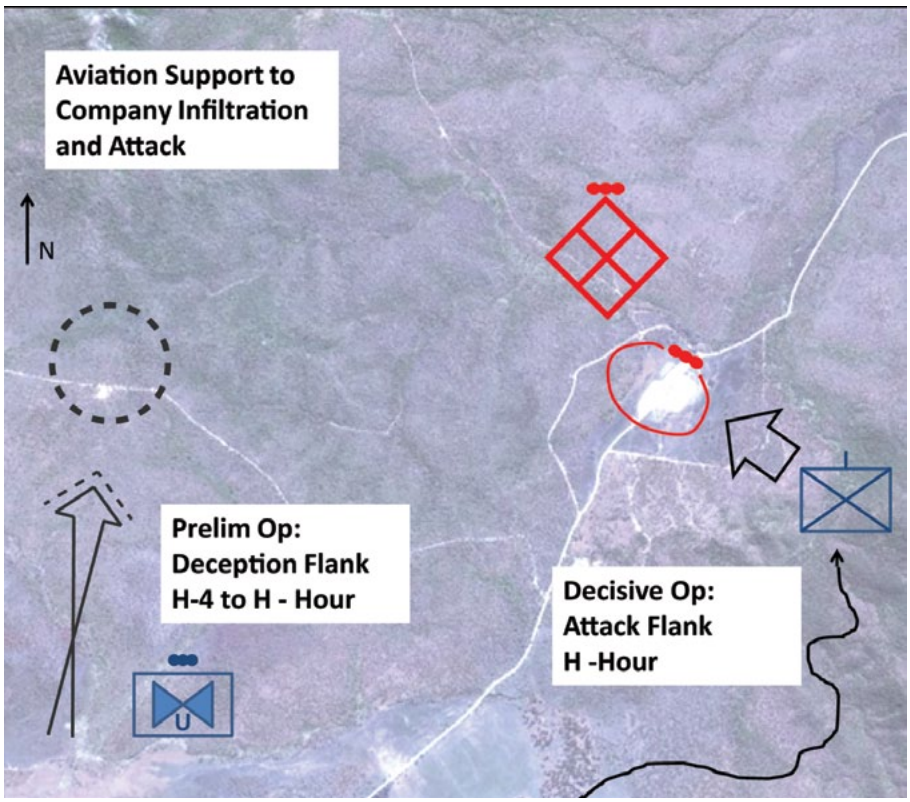


Figure 2. Aviation deception supporting company attack

While these were simple scenarios, they allowed my aviation TF and the BCT to practice the basics. Live training such as this practices both the aviators and the ground formation in integrating their deception measures. Deception is considered by the staff in the mission appreciation process, orders, rehearsals, and execution. It challenges the command and staff to synchronize the deception effort so that it produces its desired effect at the right time. Aviators are able to see for themselves whether they are delivering a convincing performance, or whether they are simply wasting resources with an unconvincing effect.

Tactical deception is an important application of Army Aviation to deliver a winning edge to the combined arms team. It has been widely employed by the United States in previous conflicts to ensure success and minimize loss of life to U.S. Soldiers. It continues to be enshrined in U.S. Joint Doctrine and taught as U.S. Army learning establishments. Tomorrow's Army aviation CAB commanders are today's junior leaders. What are you doing to prepare them to execute tactical deception?

Lieutenant Colonel Steve Jobson, CSC, is the Australian Army Aviation Liaison Officer to the United States Army. He has served as a platoon, company and battalion commander in the Australian Army. In 2001/02 he served as an exchange pilot and assistant S-3 at the 2nd Assault Battalion, 82nd Airborne Division. He has multiple combat, peacekeeping and humanitarian deployments in various countries throughout the world. Lieutenant Colonel Jobson is rated in the UH-60L.

Acronym Reference

A2AD - anti-access/area denial
AVCATT - aviation combined arms tactical trainer
ATX - aviation training exercise
BAE - brigade aviation element
CAB - combat aviation brigade
CTC - combat training center
GBAD - ground based air defense
MDMP - military decision making process
TF - task force
UAS - unmanned aircraft systems

Reconnaissance, Communication, & Planning in the Decisive Action Fight

By MAJ Lee Robinson and CPT Jesse Curry

The 1-1 Multi-Function Aviation Task Force (1-1 MFATF) recently completed the National Training Center's (NTC) fifth decisive action (DA) rotation as part of their preparation for deployment to Operation Enduring Freedom. The unit anticipated heavy emphasis on offensive and defensive tasks, but the enemy that 1-1 MFATF encountered featured a complex mixture of a sophisticated near-peer enemy force backed by a guerilla wing intent on wresting political power from a host nation government. Such complexities required the employment of stability tasks as well. The 14 days spent fighting this force resulted in significant lessons learned regarding intelligence processes, communications, and planning in such a dynamic environment.

Sharing Intelligence Laterally and Vertically

The time spent in the pre-deployment leader training program was invaluable for the task force's (TF) intelligence section (S-2) shop to conduct intelligence preparation of the battlefield (IPB) on the complex enemy featured in this rotation. The S-2 required extensive knowledge of both the conventional threat represented by the "Donovian Army" and the irregular threat represented by the "Bilsuvar Freedom Brigade." While the Donovian Army did not threaten the TF tactical assembly area (TAA), the Bilsuvar Freedom Brigade represented an existential threat to the TAA and logistics convoys. In turn, the S-2 in concert with the S-3 prepared operations and intelligence (O&I) briefs for aircrews, convoys, and force protection elements to share pertinent intelligence laterally across the TF.

While our S-2 excelled at using the IPB process to arrive at an event template to guide reconnaissance and surveillance planning, the TF was less successful at integrating this plan into the maneuver brigade's overall intelligence, surveillance, and reconnaissance (ISR) plan. Intelligence sharing proved difficult during this rotation for a variety of reasons. First, the TF was never co-located with the brigade headquarters, which meant it had to rely on digital means to transfer information. Due to movement of TAAs, communications security changeover periods, and the friction of operating in a harsh environment, the TF was frequently without classified messaging (SIPR) access to share intelligence products. Compounding this issue was the difference in ground communications equipment utilized by the maneuver brigade to support their intelligence primary, alternate, contingency, and emergency (PACE) plan and the communications equipment organic to the MFATF.

Second, the maneuver brigade that 1-1 MFATF supported did not fully integrate the TF capabilities into their ISR plan. In fact, during the after action review, the TF was not listed in the brigade's ISR synchronization matrix despite the fact that the TF included eight OH-58Ds and six AH-64Ds. Such failures to integrate the TF's intelligence operations vertically with the maneuver brigade can be remedied by more frequent synchronization meetings between the brigade S-2 and the aviation unit S-2. Utilizing ground convoys or air movement assets to link the TF S-2 with the maneuver brigade S-2 face-to-face is invaluable to synchronize the TF's collection plan with higher headquarters, as well as integrating TF aviation assets into the overall collection effort.

Lastly, the aviation TF S-2 table of organization and equipment (TO&E) strength has been modified over the last 12 years to fight a counterinsurgency and is not suited for prolonged operations in a DA environment. The TF's TO&E strength of one captain, one lieutenant, one staff sergeant, one sergeant, and one junior analyst does not facilitate 24-hour operations in a DA environment. The workload of briefing aircrews, conducting debriefs, creating story boards, collecting, and analyzing the enemy situation through intelligence battle command systems, and managing future operations is difficult to maintain when conducting 24-hour operations over a sustained period.

Communicating on the Move

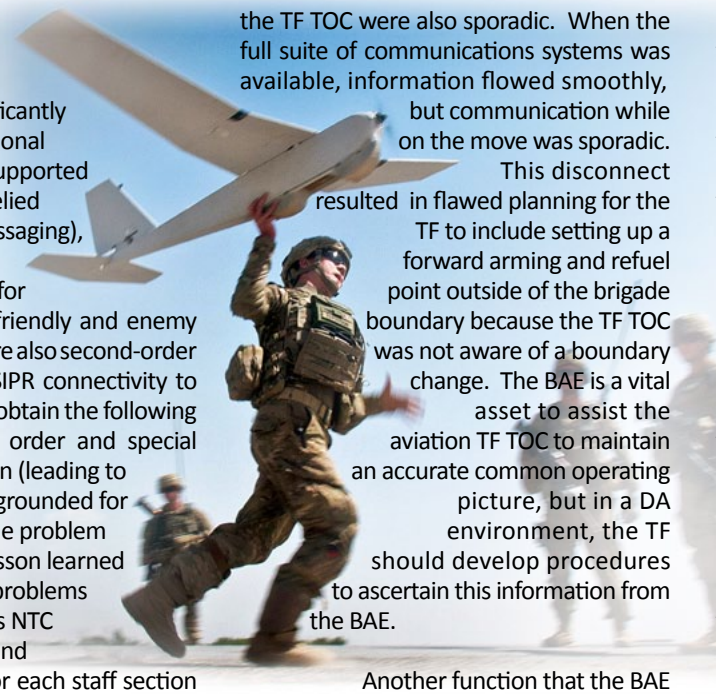
The mountainous terrain combined with the friction of TAA movements posed particular challenges for the TF as it planned and executed operations. Because the TF is only equipped for one retransmission site, FM communications were limited with the aircraft to only

about 25 percent of the operational environment. In turn, blue force tracker (BFT) was the primary communication means between the tactical operations center (TOC) and the aircraft. However, in a dynamic fight, BFT is unreliable, as it necessitates a crew member to direct their attention inside the cockpit to check and respond to BFT messages. In one instance, the TF lost an OH-58D to a chemical attack because of the latency between BFT transmission from the TOC and reception in the aircraft.

The solution to such communication challenges is to develop a robust PACE plan that incorporates over the horizon communication platforms. A ground station high—frequency and satellite communications capability in the TF TOC are essential tools to provide situational awareness for both the TOC and aircrews. Another method is to utilize the brigade O&I

and fires nets that are relayed throughout the area of operations. Utilizing such frequencies, however, requires diligent rehearsals and synchronization between the TOC and aircrews, as well as pulling the TF TOC off of necessary nets, such as the battalion and brigade command nets.

Due to the friction of the battlefield, both the brigade and TF TOCs lost SIPR connectivity at various times throughout the rotation. The loss of SIPR connectivity significantly degraded the TF situational awareness, since the supported maneuver battalions relied on JABBER (instant messaging), command post of the future, and SIPR email for real-time updates on friendly and enemy dispositions. There were also second-order effects to the loss of SIPR connectivity to include the inability to obtain the following day's airspace control order and special instructions information (leading to the MFATF fleet being grounded for over four hours until the problem was resolved). A key lesson learned from the connectivity problems experienced during this NTC rotation is to develop and rehearse PACE plans for each staff section so that the TF can continue operations in a degraded communications mode across all elements of the battle staff.



The Brigade Aviation Element—A Critical Link

Establishing a good relationship with the brigade aviation element (BAE) is especially important in a DA rotation in which friendly units frequently change task organizations and boundaries. 1-1 MFATF utilized the BAE to both push information regarding aviation capabilities and mission planning considerations and also to pull information regarding actions of adjacent maneuver units.

Like information sharing between the TF and brigade S-2, the lines of communication between the BAE and the TF TOC were also sporadic. When the full suite of communications systems was available, information flowed smoothly, but communication while on the move was sporadic. This disconnect resulted in flawed planning for the TF to include setting up a forward arming and refuel point outside of the brigade boundary because the TF TOC was not aware of a boundary change. The BAE is a vital asset to assist the aviation TF TOC to maintain an accurate common operating picture, but in a DA environment, the TF should develop procedures to ascertain this information from the BAE.

Another function that the BAE can serve is to provide the link between the aviation TOC and the ground commander's plan. Since the BAE is part of the brigade staff, it can assist in helping the aviation TF understand the ground commander's plan. In 1-1 MFATF's rotation, the TOC utilized the BAE to coordinate the link-up of the scout weapons team air mission commander with their supported elements during the ground commander's rehearsal. Such pairing is essential in a DA fight in which the synchronization of rotary wing capabilities with ground maneuver can mean the difference in success or failure for a mission.

The BAE also represented an ideal link between the TF S-2 and the brigade S-3 chief of reconnaissance. The BAE provided the TF S-2 with vital information such as Shadow links and frequencies that did not filter down to the TF from the brigade S-2 collection manager and the brigade S-3 chief of reconnaissance. While not ideal, the BAE provides significant representation at the brigade level to integrate the TF into the brigade's reconnaissance plan while also relaying aviation ISR information (such as fixed wing assets available) when information flows between the brigade S-2 and S-3 are inconsistent.

Lastly, in 1-1 MFATF's rotation, the TF possessed a thorough understanding of the ground force commander's plan during offensive and defensive operations, but little time was spent developing aviation support for stability operations. The BAE is another critical piece to inform the brigade commander of aviation's capabilities across the spectrum of conflict as aviation assets were underutilized in the stability operations conducted during 1-1 MFATF's rotation.

Decisive Action as a Learning Environment

1-1 MFATF's DA rotation stressed the TF's capabilities in multiple areas, but especially in intelligence, communication, and planning considerations with the TF's higher headquarters. Far from just focusing on offensive operations, the DA rotation resulted in lessons learned that can be applied across the spectrum of conflict.

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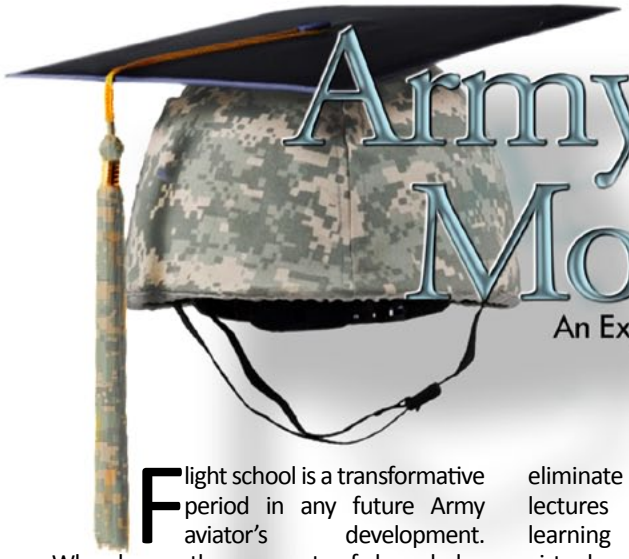
Captain Jesse Curry is the Intelligence Officer for 1-1 ARB at Fort Riley, Kansas. Captain Curry's previous assignments include service as the platoon leader for A CO 1-1 ARB. He is qualified in the AH-64D and AH-64E.

Acronym Reference

MFATF - multi-function aviation task force
NTC - National Training Center
DA - decisive action
TF - task force
IPB - intelligence preparation of the battlefield
TAA - tactical assembly area
O&I - operations and intelligence
ISR - intelegence, surveillance and reconnaissance
PACE - primary, alternate, contingency, and emergency
TO&E - table of organization and equipment
BFT - blue force tracker
TOC - tactical operations center
BAE - brigade aviation element
SIPR - classified messaging



Army Learning Model for 2015

An Exploration of Application in AH-64D Academic Training

By CPT Isaac Wisniewski

Flight school is a transformative period in any future Army aviator's development. Who knew the amount of knowledge required to move from the ground to the air? The challenge for flight school academic instructors is to impart the required information so that students can "actuate known knowledge at the point of application" (Siemens). It is a challenge that all instructors face whether they are teaching macroeconomics or the operation of the hydraulic system on an Apache helicopter. An underlying difficulty in providing knowledge worthy of application is reaching students in a meaningful way that motivates them to take responsibility for their learning and actually enjoy doing it.

With the rapid improvement of technology in our lifetime, there has been extensive research to discern the best applications of technology to enhance the learning of the "digital natives" pervading the nation's education system. In an article entitled "Learning in the Digital Age," John Brown describes the current generation as "think[ing] of information and communications technology as something akin to oxygen: they expect it, it's what they breathe, and it's how they live" (Brown). To reach this new generation, the United States Army's methods of instruction are changing to incorporate advancing technologies that will help engage students and ensure learning resources are as accessible and as easy to use as any popular mobile application.

In order to provide a vision for this new method of instruction, the United States Army Training and Doctrine Command (TRADOC) published the Army Learning Concept for 2015, TRADOC PAM 525-8-2. It challenges instructors "to develop adaptive, thinking Soldiers and leaders capable of meeting the challenges of operational adaptability in an era of persistent conflict" (Army 5). Specifically, TRADOC must "dramatically reduce or eliminate instructor-led slide presentation lectures and begin using a blended learning approach that incorporates virtual and constructive simulations, gaming technology, and other technology-delivered instruction" (Army 9). The authors purposefully highlighted the potential applications of rapidly advancing technologies to demonstrate the importance of communicating with digital-age learners in their own language.

The foundation of this communication is a combination of blended and distributed learning. "Blended learning leverages digital age learners' strengths through the use of digital media that is standardized for quality, employs video and game based scenarios, includes pretests and immediate feedback on learning [while] assess[ing] instructional outcomes" (Army 20). Distributed learning simply expands on the capability provided by technology to "deliver learning content at the point of need," during flight school and throughout an aviator's career (Army 21). The most direct approach to deliver knowledge and instruction at the point of need is to utilize devices such as smart phones and tablets to which digital-age learners are inherently attached. Additionally, employing self-paced software "unhinges learning from the classroom," and changes the instructor's role from "sage on the stage" to "guide on the side" (Army 20). The instructor is now a facilitator responsible for guiding a meaningful discussion in the classroom punctuated with practical applications of the students' rote level of knowledge. This requires an in-depth understanding of each subject and forces students and teachers to interact without regurgitating facts from Power Point slides.

How can the United States Army Aviation Center of Excellence (USAACE) incorporate technology into AH-64D academic training and utilize both blended and distributed learning models? First, the USAACE must create space in the academic calendar for practical application (hands-on, demonstrations, simulations, and discussion) and continue to ensure students reach the appropriate level of rote learning before taking them into application and correlation. A solution for facilitating this transition to a more collaborative and hands-on learning experience in the classroom is to adopt the Thayer Method, a method of instruction developed by Sylvanus Thayer, the fifth superintendent of the United States Military Academy. This method emphasizes personal responsibility for one's learning by requiring students to read and prepare for the day's lesson the night before. Students then come to class with questions, prepared to discuss the day's lesson rather than expecting to listen to an instructor's lecture for the duration of the class period. For AH-64D academic training, this would be the equivalent of having students read their hydraulics handout the night before, complete the checks on learning, and come to class prepared for a quiz on the rote knowledge (pressures, hydraulic limits, and basic components). The class time could then be spent on a working model of the Apache hydraulic system discussing its operation, sources of caution and/or warning messages in the cockpit, and the specific advantages afforded the pilot by the construction of the system. The class could close with a collaborative, competitive game akin to Jeopardy, testing groups of students' knowledge of today's lesson and all previous lessons. Instructors would also grade these group competitions to promote collaboration outside of the classroom in study groups or buddy teams.

Second, USAACE must spend its training dollars on developing adaptive, instructional software and simulations that are easily distributed and utilized inside and outside the classroom. The immediate concern with increased distribution may be with the security of

the information given to our students. This is an unjustified concern. Currently, the academics section provides all U.S. students with each handout, presentation, and program utilized in the classroom that may be used on their personal computers. These resources are stamped with a Distribution D release statement for Department of Defense personnel and its contractors only. Neither the distribution statement nor the regulations governing distribution will change with new software programs or simulations. Immediate steps to be taken are converting the current training package (handouts, Longbow Procedural Trainer, 3-D Locator, etc) to be mobile device compatible. After enhancing the academic section's ability to provide distributed learning, the next step is to develop immersive environments that virtually test and instruct Apache helicopter parts, pieces, and functionality; emergency procedures and limitations; and allow integration into a mobile gaming platform similar to Words with Friends or Apple's Game Center. Coincidentally, the United States Army Aviation Logistics School (USAALS) in Fort Eustis, VA is already developing many of these virtual interactive environment (VIE) trainers for helicopter mechanics. Additionally, USAALS has integrated mock-up helicopters with digital simulation software to introduce mechanical faults that can be fixed in a VIE or with normal mechanic's tools. In a cost constrained environment, it is far more cost effective to simulate fault isolation procedures on a trainer built from spare parts rather than a real aircraft. While USAACE utilizes aircraft parts in academic instruction, it is always as a singular piece and not part of an overall working system that can be manipulated and fully experienced by each student.

Finally, and possibly most important fiscally, USAACE should not be in the business of providing hardware devices to its flight school students. The planned device for all flight school students is a Dell laptop/tablet hybrid which is a temporary, partial solution. Apple and similar companies pay their engineers millions of dollars to develop the newest and most engaging hardware devices that are then updated at least every six months. The Army procurement system simply cannot keep up. Honestly, it should not want to. Flight school students, the majority being 22 to 26 year old young adults, will inevitably buy and want to use the newest technology available in their personal lives. Instead of flailing desperately to keep up with costly hardware updates, USAACE should be putting its energy and resources into developing programs and simulations similar to the ones described in the previous paragraph, which can then be easily updated to run on the newest device. Not only will instructors be able to reach students on their terms, but by simply concentrating on simulation programs, USAACE will be able to develop instructional software in concert with inevitable helicopter upgrades. Some will argue that the purpose of USAACE-issued hardware is to facilitate access to the Fort Rucker intranet. For AH-64D flight school students, there is no added benefit of accessing the Fort Rucker intranet, the programs and study material are distributed via DVD or are available on AKO using a username and password. Some will also argue that the issued laptop replaces the customary distribution of hardbound publications, and that by eliminating this "book issue," USAACE is saving money. While reducing the print budget seems unavoidable, USAACE does not need to commit a portion of that funding to outdated technology. Every university in America provides a list of acceptable laptops/tablets for running their software and online tools, the students must purchase it themselves prior to the start of class. USAACE must understand that it cannot afford to keep up with rapidly aging technology and join top universities across the nation in requiring students to procure their own hardware. USAACE is not following the guidance distributed in the Army Learning Concept for 2015 nor improving the students' ability to learn by issuing them inevitably outdated laptops to read PDF's, view Power Points, and execute hand-me-down programs from USAALS and the Apache Project Management Office. The study material that USAACE is making it easier to access is exactly the type of instructional material that the Army Learning Concept is steering TRADOC away from using.

USAACE has an excellent opportunity to establish a new standard of instruction and further cement its position as the best helicopter flight training installation in the world. Although USAACE is currently headed down a familiar path in early 2013, there is still time for reform to meet former TRADOC commander General Martin Dempsey's intent for TRADOC instruction. In his foreword to TRADOC PAM 525-8-2, General Dempsey relates the following: "We live in a much more competitive security environment. This

means that we have to learn faster and better than our future adversaries. Stated a bit differently, we must prevail in the competitive learning environment" (Army i). In the eyes of the tax-paying American public, it is non-negotiable that the U.S. maintains a superior fighting force as evidenced by the estimated $729 billion spent on defense in fiscal year 2012 (Plumer). USAACE must heed TRADOC's plan for 2015 and implement their well-researched and innovative learning tools, specifically designed to maintain the Army's competitive advantage over our adversaries.

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DANGER ZONE

By CW4 Steve Crandall

There is finally a way to safe a range that specifically addresses the needs of Army aviation. The Weapon Danger Zone (WDZ) tool is a game changer that provides the same level of safety as the surface danger zones (SDZ) developed for ground weapons and modified for use with aerial delivered weapons. The WDZ tool will enable more training opportunities with ground maneuver elements by providing a reduced danger zone footprint for aerial delivered munitions. The reduced footprint will allow aviation to integrate with maneuver elements during live fire events on smaller ranges. In the past, Aviation was relegated to large ranges that could accommodate previously computed SDZ dimensions which often prohibited ground participants due to the limited number of suitable ranges. Training on ranges designed with the WDZ tool will enable aviation to integrate directly with ground forces more often, resulting in a higher level of confidence for aviators and ground troops. Resultant efficiency can mean the difference in mission success or failure when deployed.

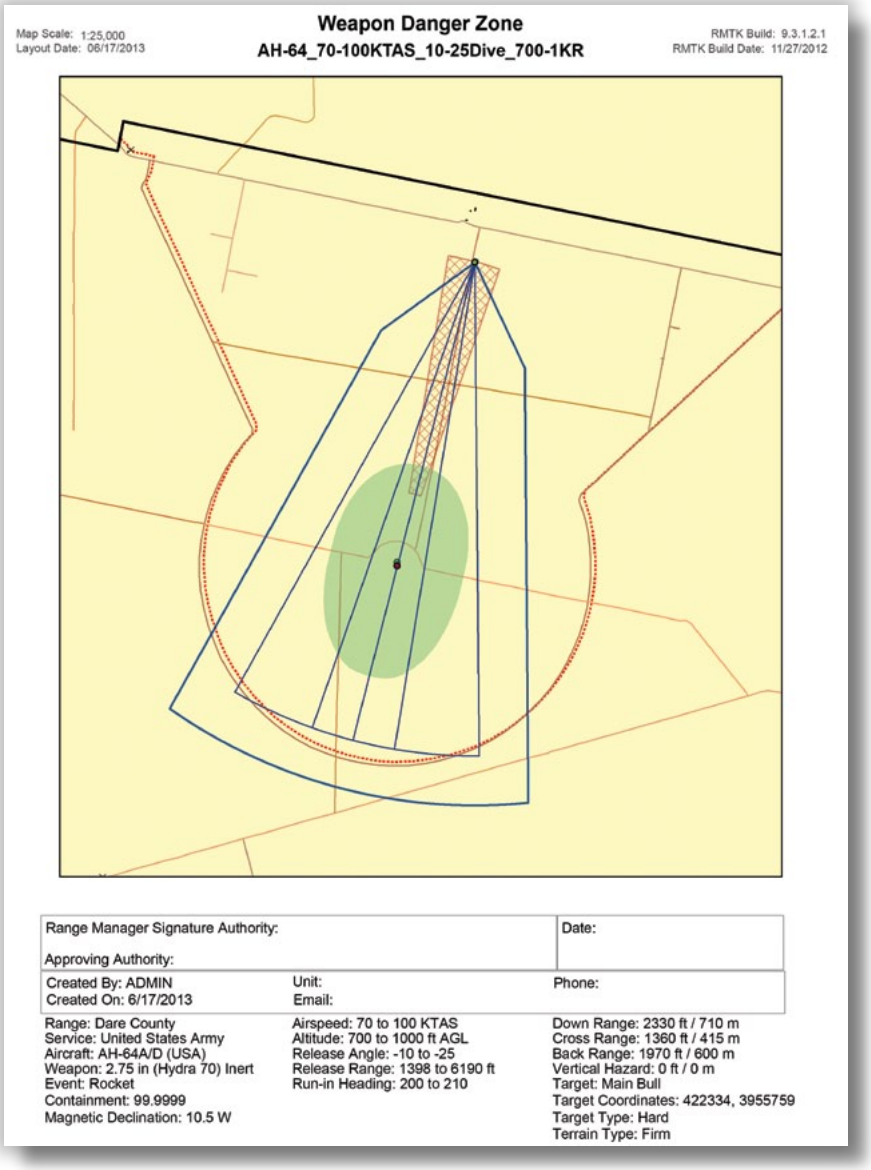
The WDZ tool creates cross-service standards to safe ranges for aviation platforms. The WDZ effort is a collaboration of different agencies including representatives from each service, the Aviation Gunnery Branch, and TRADOC Capability Manager Live (TCM-L). Ever increasing demands on Department of Defense ranges along with the development of new weapon systems and civilian encroachment makes the use of large SDZs problematic. The computerized tool digitally creates WDZs that encompass all ground and airspace of aerial fired weapons. The WDZ containment area includes all projectiles, fragments, debris, and components resulting from the firing, launching, and detonation of aviation delivered ordnance. Unlike an SDZ that is determined based on the weapon system and range to target, a WDZ is based on multiple parameters such as aircraft type, launch parameters (airspeed, altitude, dive angle), weapon type (bomb, missile, rocket, bullet), type of target (armor, tires, ply board), and type of terrain (desert, swamp, water). The WDZ creates a danger zone footprint based on a more dynamic environment where a SDZ is generally static. A direct result of using the WDZ tool is a reduced dimension of a danger zone.

The WDZ tool is a Global Information System (GIS) based tool that employs sophisticated computer modeling to generate a danger zone based on multiple parameters. The tool is also being developed as a web based tool utilizing Army Mapper (a web-based interactive mapping tool). The Army, unlike most other services, utilizes unit level trainers/planners to coordinate live fire planning events to a level of detail that includes providing danger zone footprints. The restricted use of GIS at the unit level is the one challenge in the way WDZ is developed. Currently only range operations have the GIS software required to use the WDZ because of the high expense associated with licensing and maintenance. This causes units to submit antiquated hand drawn SDZs to range operations who then produce the WDZ for the specific engagement. Effort duplication (i.e. range operations creating WDZs based on the submitted SDZs) reduces the full potential of the tool. When units base engagement scenarios on the dimensions of SDZs (not WDZs) the result will often prohibit training of a weapon system that would have been allowed if the unit planned with the WDZ tool. This falls into the category of, "you don't know what you don't know." Because aviation is so specialized, range operation personnel generally follow the suggested engagement parameters given by the unit and do not offer

recommended changes in heading, altitude, angle of dive or airspeed. Once the software is available on Army Mapper, the tool will be available for use at the unit level. There is also an on-going effort to incorporate the tool into FalconView in order to allow all planning on one system.

The WDZ tool is very useful and fairly intuitive. Because the WDZ is based on information input into the system, the danger zone can be tailored to the unit's specific needs. For example, if a unit is going to conduct qualification gunnery and the experience level of the aviators is low, the parameters of the WDZ can be set to enable more conservative risk control. Instead of setting the airspeed with a narrow window you could put in a larger airspeed parameter to account for range engagement condition deviations. If airspeed for a specific engagement was designed for 70 knots, the master gunner could input 50-90 knots (20 knots of airspeed on either side) into the WDZ tool which will create a danger zone footprint that is larger to account for the wider airspeed parameter. This can be accomplished with all of the inputs for the danger zone including heading deviations, distances and dive angles. This allows the unit to accommodate a less proficient crew or a varying window for weapon delivery of experienced crews on a particular target. Attack aviators are the most proficient pilots in the world and would never need such a large window; however, it is sometimes best to plan for unexpected events that can occur during a new aviator's first live fire event. Even with all the safeties in place a careless act by a pilot can easily cause ordnance to land outside a danger zone whether it is a SDZ or WDZ. Every aviator should be sure of his position, direction, and target prior to weapon release.

This tool includes many peripheral benefits such as a risk analysis option that allows commanders to see the risk of a specific location within the danger zone footprint. This can allow for "mission essential personnel" to be placed down range for combat realism if certain conditions are met. More information about the WDZ tool and training can be found in the Range Managers Tool Kit on the Sustainable Range Program website. https://srp.army.mil Units interested in using the WDZ tool can schedule training through this website.



This is a depiction of a WDZ with a SDZ overlay on top. The two danger zones provide the same level of safety (1:1,000,000). The start fire point is the same for both engagements. The WDZ is depicted by brown crosshatched lines for the firing lane and a green oval footprint for the ground. The SDZ is depicted by blue lines. All additional lines are associated with the map of the range. The parameters for this engagement are identified on the WDZ card itself.

The dynamic capability of this new tool will be beneficial whether a unit is planning air to ground integration training, door gunnery, or observation/ attack helicopter qualification. Weapon danger zones enable realistic and safe live fire training events with ground forces that will pay dividends when engaging a determined enemy in combat.

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Acronym Reference

GIS - Global Information System	**TCM-L** - TRADOC Capability Manager Live
SDZ - surface danger zone	**WDZ** - weapons danger zone

Aviation Digest
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Aviation Company Field Training Exercise

Major General Hamilton H. Howze, *USA*
Director of Army Aviation, ODCSOPS

THE PROOF OF THE PUDDING is in the eating; the proof of training is success in combat. We cannot "prove our pudding" in normal times by drumming up a war just to see how we'd do. We must therefore spend a proper portion of our time in tests, maneuvers, and exercises to train for the eventuality of combat. This means to develop and prove new concepts of organization, doctrine, techniques and procedures.

The Field Training Exercise occupies a unique position in this system, for it constitutes an invaluable aid in determining the combat effectiveness of commanders, staffs, and operating personnel. Moreover, the FTX properly and imaginatively conducted is *good fun,* assuming of course that it doesn't rain.

It is a common error to assume the FTX is the climax of both individual and small unit or section training; in other words, to assume that a high state of individual and small unit training *must* be achieved as a prerequisite to an exercise involving the whole outfit. This is not so. Individual and specialist training will get its greatest impetus through the field exercise which demonstrates plainly the *requirement* for the more basic stuff, and exposes the ever-present weaknesses. The FTX is a good vehicle to permit a commander to appraise the combat effectiveness of the unit, and this can be done profitably at almost any stage of training.

The newly reorganized infantry, armored and airborne divisions reflect that Army Aviation has come into the limelight as a principal means of affording division commanders the necessary mobility and control to cope with situations arising on the atomic battlefield. We in Army Aviation must be constantly aware of our new and greater responsibilities, be quick to grasp new ideas, and be objective in our evaluation of new doctrine. This is equally applicable to the proposed corps and fixed- and rotary-wing companies. Required, then, is intensive training of every individual to fit the requirement, as well as repeated tests of the composite organization.

Division aviation will no longer be satellited on some other unit for administrative or logistical support. As commander of a division, corps, army or separate aviation company, you are on your own, and you stand or fall on its performance as a whole, whether it be communications, unit administration, motor maintenance, or those tasks with which we are accustomed i.e.,

aircraft maintenance, supply, and tactical flying. The FTX presents a perfect training vehicle for use in developing those operational techniques essential to the successful support of division, corps, or field army in combat.

An aviation company FTX requires planning if it is to be of any real value. The initial stages of planning require careful coordination with the general and special staff of the division, corps and army. G3 should assist in drawing up a tactical situation; G2 will probably jump at the chance to exploit his intelligence training and check security while in the field. G4 will assist in portraying realistic logistics problems. In most cases, aircraft maintenance and supply problems will need no exercise embellishment. The assistance of the Signal Officer will be invaluable.

Be sure to develop a scenario that applies sound tactical principles, realistic time and space factors, and missions and tasks that normally will be expected of the company. Occasionally you may join forces with a combat command, battle group, or artillery battalion for part or all of the exercise. This will assist in providing realism in addition to furnishing "live" missions for your pilots.

From time to time feed new information into the situation. Otherwise, things will go stale. On the other hand, don't overplay the "mock" situation to such an extent that missions cannot be accomplished and everybody bogs down in a welter of messages.

Provide time to correct obvious errors during the course of the problem. Particularly in the first FTX conducted, it is important that procedures and techniques be meticulously corrected or errors will be compounded and may never be straightened out. Take time for critiques at various stages of the exercise to make on-the-spot corrections and evaluation of the action to that point.

The success or failure of Army Aviation depends upon flight operations. Utilize the FTX to provide various types of tactical flying, training of observers, selection of strips, camouflage and concealment of aircraft, and night field strip operations. Require good briefing and de-briefing of pilots and observers. In the absence of aggressor troops, use maximum ingenuity (Division G2, G3 and G4 can help greatly) in assignment of missions, so that aircraft are not just boring holes in the air. When possible coordinate with other units in the field to provide reconnaissance and observation targets.

The final phase of every training exercise is the critique. This is the opportunity to analyze each segment of the company's performance. Review procedures and techniques, and profit from mistakes; review unit SOPs and improve them where applicable. Throughout the critique two questions are of paramount and continuing importance: first, "Did we accomplish our mission?" and second, "Could we have done it better—if so, how?"

Transformational Followership in the U.S. Army

Part 2

By COL Michael L. Shenk

Part I of "Transformational Followership in the U.S. Army" examined relevant literature detailing the importance of the leader-follower relationship to effective leadership. In Part II, the author proposes a model for the Army Transformational Follower and includes recommended changes to the Army's capstone leadership doctrine.

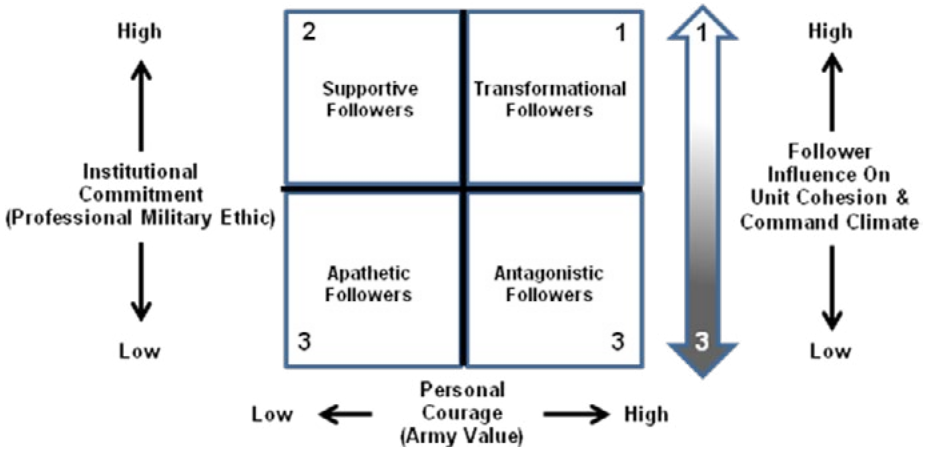


Figure 3 (Army Follower Model)

Figure 3 provides the author's typology for the Army follower when viewed from the perspective of an Army organization led by positively influenced leaders who have sound morals, strong ethics, and demonstrate the values and core competencies defined by current Army leadership doctrine.[1]

Two axes define the Army follower model: personal courage and institutional commitment, each scaled from low to high in terms of the follower's relative internalization and outward application of the two concepts. On the right side of the model, the author proposes the resultant effects a follower may have on unit cohesion and command climate based upon his or her actions and behaviors as defined by the model. The numerical coding of follower types and the poles of the unit cohesion/command climate assessment scale from 1 to 3, where 1 represents the best-case or ideal classification and 3 represents the worst-case or least productive classification.

In the context of the model, the Army Value of personal courage is considered from moral and emotional points of reference–not physical–and assumes proportionally developed interpersonal communication skills and a willingness to use them commensurate with the follower's level of experience in the organization. The vertical axis of institutional commitment defines the follower's relative understanding and outward demonstration of the Army's professional military ethic, inclusive of his or her dedication to the local organization. Inexperience (as exampled by a newly recruited Soldier), ignorance or ambivalence, or explicit choice could define a follower's low institutional commitment. The author contends that a follower's institutional commitment should improve as he or she integrates with successive unit assignments. However, in the case of low institutional commitment by choice, the model does not assume uninhibited or consistent improvement over time.

The Army transformational follower (upper right quadrant of Figure 3) is the optimal follower type. He or she possesses and models high personal courage and is fully committed to the Army as a professional institution and his or her organization as a representative of that institution. Moreover, the transformational follower instills and demands the same from subordinates, peers, and superiors through followership by example and with tact and candor. He or she complements the Army leader's expert and referent sources of power (see Figure 1, in Part 1) and capitalizes on

delegative and participative leadership styles by demonstrating initiative and taking responsibility for individual and team successes and failures. Transformational followers understand the leader's message and the context in which it was delivered. They do not dilute it in dissemination. In addition, they understand the difference from the context in which it will be received by subordinates.[2] Transformational followers demonstrate loyalty to the institution through the endorsement of the leaders' vision and organizational priorities.

Army transformational followers have the highest potential for contributing positively to unit cohesion and command climate through their continuous application of the Army Values and high commitment to the Army professional military ethic.[3] And, they possess the wherewithal to pre-empt a fellow follower or leader's (toxic) crisis by engaging him or her before impending failure. They implement the ethically sound leader's policies energetically, refusing to let them fail through poor dissemination, misinterpretation, or apathetic execution. They provide constructive feedback to the leader in a way the leader understands and appreciates, minimizing defensiveness with straightforward communication and privacy.[4]

The Army supportive follower (upper left quadrant of Figure 3) has developed and consistently demonstrates high individual commitment to the Army as an institution, but maintains low personal courage as it applies to a willingness to courageously voice an opinion to effect change. Underdeveloped interpersonal communication skills could contribute to the supportive follower's propensity for avoiding meaningful leader interaction. The lack of professional personal courage could be by follower choice or due to developmental inconsistencies, bad personal experiences, and/or a self-perceived notion that the leader does not value such interaction.

It is the author's belief that leaders can develop a supportive follower's personal courage and interpersonal communication skills to facilitate meaningful leader engagement, although at differing developmental rates. In many cases, supportive followers may be exposed to successive positive leadership environments where their passive supportiveness was contributory to the unit's mission without necessarily creating opportunities for individual transformational input. It is easy to be loyal and supportive to the profession if one has a great leader.[5] In the most successful units, opportunities to realize transformational follower interaction may be less obvious or frequent. Without strong personal conviction and overt communicative skills required to challenge subordinates, peers, and superiors, supportive Army followers may fail to explicitly achieve their transformational followership (and leadership) potential. More dangerously, supportive followers could fail to recognize or capitalize on the opportunity to take action in the case where the organization is subject to toxic leadership. "Managing conflict often requires confronting others."[6] Achieving transformational followership (beyond supportive levels) require personal courage, which enables followers to act on their own account.

The Army antagonistic follower (lower right quadrant of Figure 3) demonstrates high levels of personal courage and conviction but has low commitment to the Army as an institution or the unit in which he or she serves. Recalling that the author's Army transformational follower model assumes that the organization is led by a morally grounded and ethically sound leader who has defined a clear vision and set achievable positive goals, antagonistic followers take overt and covert negative action based on, but not limited to, self-interests, self-promotion, and self-preservation. They possess the courage to challenge subordinates, peers, and superiors; however, they do so in a confrontational and ultimately unproductive way. Such behavior has limited potential for measurable results and ultimately opposes the leader who strives for unit cohesion and growth. Candor and tact do not necessarily typify the antagonistic follower. Although incremental change (positive and negative) could result from the antagonistic follower's actions, achieving such does not justify the means used to obtain it.

Supportive and antagonistic followers are opposites in the author's Army follower model, yet both similarly fail to achieve transformational outcomes within the organization due to underdeveloped personal courage and low institutional commitment, respectively. Army antagonistic followers detract from the unit's cohesion and overall command climate without the necessary commitment to the institution and the organization. Such followers do not positively transform the unit through sound leader-led relationships, as the relationships between antagonistic followers and their leaders are inherently strained.

Organizational leaders should determine the source of the antagonistic follower's motivation for non-compliance and detrimental outspokenness in order to reconcile the follower's actions with the institutional and organizational standards and goals. Through trust-building opportunities and consistent communication, the leader should strive to develop the antagonistic follower's understanding and willingness to subscribe to the institutional and organizational norms. The overarching goal of such an effort would be to mature the antagonistic follower to achieve transformational follower qualities that promote unit cohesion and positive climate. If after prolonged efforts to achieve such a transformation prove unsuccessful and a distinct pattern of antagonistic behavior perpetuates despite developmental and experiential opportunities for improvement, then the Army leaders who supervise the consistently antagonistic follower should communicate the follower's lack of compatibility with Army service via all means available. Leaders should initiate separation for persistently antagonistic followers who choose to or prove incapable of subscribing to the Army's professional military ethic within positively led organizations.

Army apathetic followers (lower left quadrant of Figure 3) maintain a consistent ambivalence to the Army as an institution and possess an underdeveloped sense of personal courage and/or interpersonal skills required to employ it. While the reader may be drawn to uniquely associate

this classification with a junior enlisted Soldier or the term subordinate, doing so would be a misstep. Fortunately, the Army is full of highly proficient, contributory subordinates of many ranks and at all levels on which leaders and followers depend greatly. While some fall in the antagonistic follower category, most would be considered supportive followers as characterized by the author's model. The apathetic follower further specifies those Army individuals whose consistent behavior demonstrates a lack of understanding of or support to the Army as an institution or the values, traditions, and ethics that help define it. Apathetic followers (of any rank) represent a less vocal and less interpersonally active subset of Army antagonistic followers. Each has the potential to detract from unit cohesion and command climate and makes limited to no transformational input to the organization or Army as a whole. Their lack of support to the Army as an institution and the unit as an entity therein, whether passive or active, dominates their thoughts and activities while limiting any potential for contribution to organizational improvement.

Successful Army leaders and transformational followers dedicate significant effort and resources to further develop apathetic and antagonistic followers to ensure continuous individual development and organizational improvement. Through active modeling, counseling, mentorship, and evaluation the ultimate goal is for optimal Army leaders and followers to transform apathetic followers into supportive followers (and eventually transformational followers) and antagonistic followers into transformational followers. Institutional Army efforts, through individual and leader development training, should continuously strive to do the same. Ultimately, the goal is to apply sufficient personal and institutional resources to progressively transition Army commissioned and noncommissioned officer followers from their initial and present stages of follower development to increasingly transformational capabilities. "Follower-development programs should take advantage of opportunities to instill/reinforce institutional values, model effective follower roles and behaviors, and begin the mentoring process."[7] The author does not exclude the potential for junior enlisted Soldiers to take transformational action or to be considered transformational followers; however, it is assumed that such transformational activity would predominately occur after transition to the noncommissioned officer ranks.

The current version of the Army's leadership doctrine (FM 6-22) is a robust resource and details the leader attributes and core competencies defined to be important to successful Army leaders. However, based on relevant literature, it fails to distinguish followers from subordinates and acknowledge key follower attributes and contributions critical to developing leaders and successful Army leadership. Additionally, FM 6-22 fails to detail an Army leader's sources of power and the transactional and transformational leadership styles that follow. In order to offer a more thorough understanding of leadership, inclusive of the transformational followership perspective, the author recommends several content updates to FM 6-22.

In order to capitalize on the relevant literature and expand the Army's leadership concept, the author proposes a substantive change to the Army Leadership Requirements Model driven primarily by the addition of a core leader competency named "Follows Others".[8,9] Threading the resultant changes through FM 6-22, the Army Multi-Source Assessment and Feedback 360 (Army MSAF360), evaluation tools, and the education systems will best advance the transformational leadership and followership concepts. Moreover, enabling a follower focus would set the conditions for a deliberate focus on the recognition, remediation, and reduction of toxic leadership.[10]

Revisions to Chapter 1 (Leadership Defined) should include definitions for and differentiating discussions of subordinate, follower, and followership. Chapter 2 (The Foundations of Army Leadership) revisions should include definitions for sources of power, transactional leadership and followership, and transformational leadership and followership. The author offers the following definition for transformational followership as a starting point for such

Attributes	Core Leader Competencies
A Leader of Character Army Values Empathy Warrior Ethos	***Leads*** Leads Others Follows Others Extends influence beyond the chain of command Leads By Example Communicates
A Leader with Presence Military Bearing Physically Fit Composed, Confident Resilient	***Develops*** Creates a positive environment Prepares Self Develops others
A Leader with Intelectual Capacity Mental Agility Sound Judgment Innovation Interpersonal Tact Domain Knowledge	***Achieves*** Gets Results

FIGURE 4 (Modified Army Leadership Requirements Model)

a revision: Transformational followership is the contributory action based upon a heightened understanding of effective subordination to an organization's mission, goals, and the leaders who define them, which facilitates the mutual achievement of the organization's mission through courageous participation, honest feedback, and ethical reasoning. It requires loyalty to the institution, duty to do what is right always, respect for subordinates, peers, and superiors, selflessness, honor, integrity, disciplined personal courage, empathy, and humility. In addition, it necessarily includes an understanding and application of positive leadership principles horizontally and vertically within the organization. Transformational followers are likewise Army leaders. Additionally, the author invites the use of Figure 3 (or a similar visual tool) detailing a typology for Army followers to present the variations of positive and negative follower types found in Army organizations.

As depicted by bold text in Figure 4, FM 6-22 should include Follows Others as a fifth competency within the core leader competency "Leads" as presented in the Army Leadership Requirements Model. The addition of the Follows Others competency would permeate Chapters 2 (The Foundations of Army Leadership), 7 (Leading), and Appendix A (Leader Attributes and Core Leader Competencies). The further development of the requisite components and actions that fully define the Follow Others competency would likewise result in the development and inclusion of a new table (analogous to Tables A-2 through A-9, FM 6-22).

Lastly, FM 6-22 should include a definition for and discussion of toxic leadership as related to its negative effects on command climate and unit cohesion and for the purposes of better recognition, remediation, and reduction therein. Courageous follower actions that will aid in the actions required to reduce toxic leadership could be presented in an Army Values context (specifically, Duty, Integrity, and Personal Courage). Such a discussion should include vignettes describing unacceptable toxic leadership behavior and model positive leader and follower actions taken to recognize, remediate, and reduce toxic leadership – an argument made previously by Reed and Olsen.[11] Consideration should be given to detail characteristics of emerging toxicity in an otherwise nontoxic leader to aid in the development of transformational followership skills that facilitate recognition and remediation. Inclusion of Lipman-Blumen's work on identifying indicators of toxicity in otherwise nontoxic leaders should be considered for this purpose.[12] While not the dominate effort of the doctrinal codification of Army leadership, the resulting benefits of toxic leadership's inclusion and discussion greatly outweigh the alternatives of ignorance and avoidance.

The recommended addition of Follows Others to the Army Leadership Requirements Model demands a corresponding update to the Army MSAF360 program to inculcate the concept of transformational followership. Using the current response scale in the Army MSAF360 program (Very Ineffective, Ineffective, Somewhat Ineffective, Borderline, Somewhat Effective, Effective, Very Effective, and Not Observed), participants would assess the components of the Follows Others competency. The author defines the Follow Others components for inclusion in FM 6-22 and the Army MSAF360 assessment module in Figure 5. To compliment the assessment capability of the Army MSAF360, Army evaluation tools would likewise require revision. Any upcoming changes to the Officer Evaluation Report (OER), Noncommissioned Officer Evaluation Report (NCOER), and supporting materials would require the inclusion of Follows Others as an evaluated core leader competency.

To complete full implementation of the recommended change to the Army Leadership Requirements Model, Army officer and noncommissioned officer education systems (OES and NCOES) should incorporate meaningful presentations and discussions on followership, toxic leadership, and their effects on command climate and unit cohesion. Education and training opportunities should additionally focus on the transformational followers' role in the recognition, remediation, and reduction of toxic leadership in the Army. Inclusion of such topics in future revisions to FM 6-22 will enable such modifications to OES and NCOES, as the defining leadership doctrine is resident

FIGURE 5 (Components of Follows Others Competency)

in requisite instruction and discussion. Updating FM 6-22 is a necessary condition, but not sufficient. The Army Training and Doctrine Command (TRADOC) would have to direct focus on the topics of followership and toxic leadership throughout successive OES and NCOES opportunities to guarantee their inclusion in respective curricula.

Other avenues for leader education on followership and toxic leadership include, but are not limited to, the following: the Army Equal Opportunity Advisor and Inspector General courses, Army Profession and Ethic Trainer and Master Trainer courses, Army and career field specific pre-command courses, and organizational command and leadership efforts (officer and noncommissioned officer development programs, commander/first sergeant courses, rear-detachment officer and noncommissioned officer courses, etc.).

The leadership paradigm has progressed beyond examining a leader's traits and behaviors and the ensuing style in which he or she exercises authority over the led. The continued exclusion of followership–the actions willful followers take to enable (or disable) productive leadership–and frank discussion of toxic leadership represents missed opportunity for significant institutional transformation at the individual, team, and organizational levels. Rooting such new information in the Army military professional ethic, the Army Values, and the Warrior Ethos will best empower leaders and followers to develop mutually supportive transformational relationships that generate and maintain strong unit cohesion and positive command climate.[13] Through such efforts, leaders and followers will achieve the leader's vision together, meet leader and follower defined goals, and accomplish the organization's overall mission.

Biography

Colonel Michael Shenk, U.S. Army, is currently the Commander of the Army Air Traffic Services Command (ATSCOM) and the 164th Theater Air Operations Group (TAOG) at Fort Rucker, Alabama. He holds a B.S. from Clarion University of Pennsylvania and an M.S. from the Naval Postgraduate School, Monterey, California. During his career, COL Shenk served with the 12th Aviation Brigade, 101st Airborne Division (Air Assault), 1st Cavalry Division, the III U.S. Corps, and United States Forces -Iraq. He deployed for Operations Desert Shield and Desert Storm and has multiple deployments in Operation Iraqi Freedom and Operation Enduring Freedom. COL Shenk has taught mathematics at the U.S. Military Academy, West Point and served as the Professor of Military Science at Auburn University at Montgomery, Alabama.

Endnotes

1 The author's original Army follower model and descriptions of the individual Army follower types appeared first in his U.S. Army War College Civilian Research Project, Michael L. Shenk, Transformational Followership and Reducing Toxic Leadership in the U.S. Army (University of Texas at Austin, 2012), 90-100.
2 Ira Chaleff, The Courageous Follower: Standing Up to and for Our Leaders (San Francisco, CA: Berrett-Koehler Publishers, 1995), 61.
3 The seven Army Values are Loyalty, Duty, Respect, Selfless Service, Honor, Integrity, and Personal Courage), Army, Army Leadership – Competent, Confident, and Agile, Chapter 2, 2.
4 Chaleff, The Courageous Follower.
5 Eddie Buchanan, "Can There Be Leadership Without Followership?," Fire Engineering 160, no. 8 (August 2007): 108, in EBSCOhost (accessed October 7, 2011).
6 Richard J. Mayer, Conflict Management: The Courage to Confront (Columbus, OH: Battelle Press, 1990), 3.
7 Latour and Rast, "Dynamic Followership," 103.
8 The Army Leadership Requirements Model is defined and displayed in graphical form throughout Army, Army Leadership – Competent, Confident, and Agile, Chapter 2, 3-4.
9 The author's recommendation to add the Follows Others leader competency to the Army Leadership Requirements Model (and all subsequent updates to FM 6-22, Army MSAF360, and evaluation documents) appeared first in his U.S. Army War College Civilian Research Project, Michael L. Shenk, Transformational Followership and Reducing Toxic Leadership in the U.S. Army (University of Texas at Austin, 2012), 102-108.
10 To access the Army MSAF360, the reader will require a U.S. Army or Department of the Army Civilian Command Access Card, U.S. Army Multi-Source Assessment and Feedback 360 Home Page, https://msaf.army.mil/LeadOn.aspx (accessed September 16, 2011).
11 George E. Reed and Richard A. Olsen, "Toxic Leadership: Part Deux," Military Review, 90, no. 6 (November-December 2010): 58-64, in EBSCOhost (accessed September 20, 2011).
12 The reader interested in questions followers can ask themselves and other members of the organization to detect toxic behavior in otherwise nontoxic leaders should refer to Janet Lipman-Blumen, The Allure of Toxic Leaders: Why We Follow Destructive Bosses and Corrupt Politicians - and How We Can Survive Them (Oxford, NY: Oxford University Press, 2005), 225-227.
13 The Army Warrior Ethos is presented in its entirety in Army, Army Leadership – Competent, Confident, and Agile, Chapter 4, 10.

Acronym Reference

MSAF360 - Multi-Source Assessment and Feedback 360
OER - Officer Evaluation Report
NC**OER -** Noncommissioned Officer Evaluation Report
TRADOC - Training and Doctrine Command

AIR TRAFFIC CONTROL & Helicopter Operations

By SPC Rune Duke

Helicopters comprise the majority of aircraft in the Army's inventory and have a wide range of uses and capabilities uniquely designed to fulfill specific mission requirements. However, helicopters are not the most common type of aircraft flying in the national airspace system. Instead of receiving specialized handling by air traffic control, helicopters may be treated just like an airplane. Civilian controllers might see helicopters very rarely or be unfamiliar with the most efficient ways in which to assist them when they are landing, departing, or transitioning through their airspace. Terms such as "flat pitch", "boost off", "hard stand", or "180 auto" may be foreign to a civilian controller. Clarity is integral to effective communication and asking for a rephrasing of a clearance in plain language is an important tool that each pilot should know is available. Educating helicopter pilots about the air traffic control system, as well as educating both military and civilian controllers on helicopter capabilities, can greatly improve the efficiency of services received and provided.

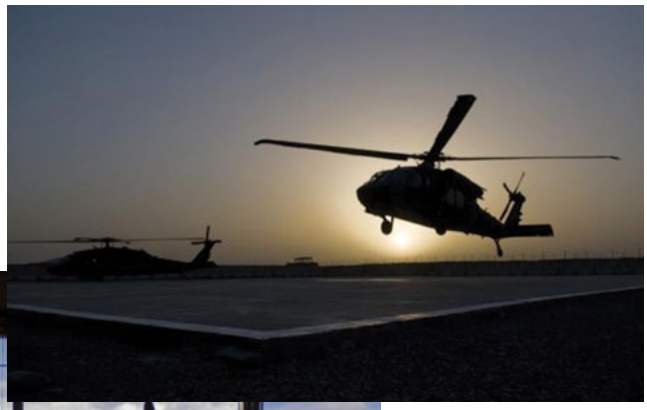
One misconception to be aware of is that helicopters do not always need to land or depart from a runway or helipad. With proper coordination with other controllers, a tower is able to clear an aircraft to land on different sod areas or even taxiways. This improvisation increases efficiency by greatly reducing the duration between landings and departures, and can keep helicopters separated from faster moving fixed-wing traffic. Helicopters can be instructed to land nearly anywhere on a runway, and can even be told to terminate short of an intersecting runway, similar to land and hold short operations (LAHSO). Although, Army controllers are not allowed to use

LAHSO procedures, terminating short for helicopters is a very useful tool that could fall in the category of instructing the pilot to terminate on the numbers or in the first 1000' of the runway. Allowing an aircraft to land or depart from an uncontrolled non-movement area is normally done if it is determined to be a safe operation with no adverse effect on other aircraft. The pilot is never told he/she is cleared to land or takeoff, but rather is told that the operation is approved and at the pilot's own risk. The same phraseology is used when a helicopter needs to go to a helipad that is off field and not visible from the tower, such as a hospital landing pad.

Simultaneous helicopter arrivals and departures can occur when there are at least 200 feet of separation between the landing and departure surfaces; this is the same distance that runway edge lights are normally spaced. Fort Rucker's stagefields are a good example of this rule in effect as lanes are normally separated by 200 feet. At some airfields, hold short lines painted on the ground do not always surround helipads, but it is expected that aircraft will hold short and call tower before taking the pad. Helipads are used at many airports and must meet certain obstacle clearance requirements. Helipads that are published on Standard Instrument Departure (SID) procedures have more obstacle clearance requirements than visual flight rules (VFR) only pads, but they also have specific departure headings published. Local procedures may not be published for the pilots to see but coordination between the controller and the pilot can allow a departure into the wind and a turn to intercept the SID when departing from a helipad. The heading could be offered by the controller due to wind or because of an operational advantage, but when the wind velocity becomes greater than a five knot tailwind permission is required from the pilot.

Helicopters are normally separated from other aircraft in the pattern by either an opposite downwind or a different pattern altitude. Most helicopters are now capable of attaining the same speed as any single engine airplane trainer, such as a Cessna 172, and are usually placed in the same pattern for sequencing purposes. Many controllers find it easier to give a helicopter pilot as much of advance notice to either speed up or slow down as possible, rather than issuing a 360-degree turn to get the necessary spacing. Controllers are required to provide the reason for such a request when time permits, as it will help the pilot maintain situational awareness.

Controllers anticipate that an aircraft will not make turns on an instrument flight plan until it reaches 400 feet above ground level when the field is operating under instrument flight rules (IFR). When the field is VFR, a helicopter on an instrument flight plan may be asked for an expeditious or early turn, which can help avoid conflict and ensure that the aircraft proceeds on course as quickly as possible. Controllers should tell the pilot in the initial clearance whether an early turn will be necessary, because it can be very awkward if the pilot is already airborne and is unable to perform an early turn that was needed because of conflicting traffic. It is the pilot's prerogative to either accept or say "unable" when asked by a controller for an early or expeditious turn. It is the pilot-in-command who is responsible for that aircraft and he/she must notify the controller as soon as they feel uncomfortable. Pilots who wait until short final to request to circle to land to another runway or helipad can be frustrating, because controllers appreciate advance notice as well.



Pilots are expected to not make unusual or unrequested flight maneuvers in the pattern. Controllers make their decisions based upon known and observed aircraft. Conflicts can arise when a pilot has a different understanding of what controllers have instructed them to do, or alter their flight path without the controller's approval. An example would be a pilot instructed to enter on the downwind actually entering on the base. Querying the controller before altering a flight path is the best way for a pilot to handle this situation unless there is a safety issue that requires urgent action.

Army controllers must not only follow Federal Aviation Administration requirements, but also those specified in military manuals, such as issuing wind with any landing and takeoff clearance. There are many procedures to be aware of for helicopter pilots, but air traffic controllers are there to assist. The continued education of both helicopter pilots and controllers can ensure that a successful relationship results in safe and efficient operations.

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Acronym Reference

LAHSO - land and hold short operations	**VFR** - visual flight rules
SID - standard instrument departure	**IFR** - instrument flight rules

A HARD LESSON LEARNED: The Need for Weapons and Tactics Instruction in Army Aviation

By MAJ Jamie LaValley

With the war in Iraq complete and the war in Afghanistan coming to a close, Army Aviation has the opportunity to reflect on its performance over the past twelve years of conflict, correct deficiencies, and posture itself for future threats. While the ability of Army Aviation to meet the ground forces needs has increased tremendously since 2001, tactical weaknesses have been evident in both Iraq and Afghanistan. The time to correct these problems is now. Army Aviation should completely revamp its tactical flight-training program to be postured to respond to any threats the U.S. Joint Force may face.

As the national defense focus shifts away from the Middle East and towards the Pacific, aviation leaders should posture Army Aviation for future threats and not simply fall back to doing "what we used to do." Army Aviation's rotary and fixed-wing aircraft must be capable of effectively fighting low intensity (wide area security), high intensity (combined arms maneuver), or hybrid conflicts equally. The possibility of fighting a conflict with the U.S. Navy off the coast of Iran against small boats, against Chinese forces in a resource war in Africa, or a hybrid war in Syria are all possible conflicts for which Army aviators should be prepared. Before these threats manifest themselves, a tactical flight-training program should be implemented to ensure that Army aviators are ready to counter them.

Shortcomings

A problem evident in conventional Army Aviation is a lack of tactical flight training curriculum. Other than initial flight training, there is no formal tactical flight-training course to provide Army aviators standardized tactical flight instruction to improve their tactical abilities throughout their career. Such training would help ensure Army pilots are able to defeat current and future threats. This training deficiency has often placed Army aviators behind the enemy's tactics, as evidence from Afghanistan and Iraq has shown.

An example of Army Aviation's exceptional perseverance in combat also highlights the failure of institutional training to tactically prepare aviators for combat. In Operation Anaconda, Task Force (TF) Eagle Attack of the 101st Airborne Division deployed to Afghanistan and performed heroically in an environment that no conventional aviator had been trained to fight in. As the Vietnam generation filtered out of the force, institutional lessons learned and specific skills such as running and diving fire by AH-1 and UH-1 gunships crews were lost. Tactical training to develop these unique skills prior to deployment would have significantly assisted these aviators in the mountains of Afghanistan. Aviators in TF Eagle Attack had to re-learn tactics, techniques, and procedures (TTPs), sometimes when en route to battles raging in the Afghan mountains, that no longer were available in Army Aviation doctrine.

3-101st after-action reviews highlighted these shortcomings, "Prior to Operation Anaconda, they (the aviators) had never trained at the altitudes they were flying at in Afghanistan. They had never trained to use their weapons systems the way METT-T (Mission, Enemy, Troops, Time and Terrain) required (i.e. close range pilot IHADSS rocket engagements). The pilots interviewed said they had discussed how they were going to accomplish weapons engagements just prior to actually doing it."[1] A year earlier, TF Eagle attack pilots and commanders were still using TTPs on firing ranges that primarily supported hover fire engagements against armored vehicles. These tactics were focused on fighting a Soviet-style enemy, but that threat had dissolved nearly a decade earlier.

This presents many questions: Why did no formal flight-training curriculum exist to instruct pilots on the best practices when fighting a threat such as Al Qaeda in Afghanistan? This organization demonstrated a clear threat to the U.S., evident in the bombing of the World Trade Center in 1993 and the U.S. embassies in Africa in 1998, and the attack on the U.S.S. Cole in 2000. Why was there no connection between Army Aviation tactics and the changing U.S. National Security Strategy, which, in 1999, cited transnational threats and terrorism as the most likely threats to the U.S.?[2] Such a training program/ curriculum could have responded to the collapse of the Soviet Union and reshaped the training and capabilities of the nation's most lethal helicopter force to effectively

fight emerging threats. Army Aviation's slow adaptability to world events would soon lead to another display of its lack of tactical preparedness in Iraq.

A widely publicized failure of Army Aviation was the cross forward line of troops attack on March 23, 2003, by 33 AH-64s led by the 11th Aviation Regiment Apaches to destroy elements of the Iraqi Republican Guard Medina Division. The Iraqi air defense network had adapted to the strategies used by Army attack helicopters in simple yet effective ways by dispersing their forces amongst the population and coordinating a low-tech air defense network. The results of this operation were "almost every aircraft receiving some type of damage from small arms and air defense artillery. While ingressing…aircraft encountered an unexpected and sophisticated anti-aircraft

ambush that prevented some crews from reaching their objectives."[3] The damage to the Medina Division was negligible, 30 of the attack helicopters were damaged, one Apache shot down, and its crew captured by Iraqi forces. Saddam Hussein even attempted to use the defeat of this attack and downing of the Apache "by a peasant" in a wartime address as evidence that Iraqi forces were repelling the coalition attack, showing what the significance of such a failure can have at the strategic level.[4]

The aftermath of this attack caused many members of the media and government to view Army Aviation, particularly the AH-64 community, as a relic of the cold war unable to survive on the modern battlefield.[5] Tactically, these critics had a point. Army Aviation proved it had not adapted to the modern threat, using tactics with little variation from those used during the 1991 Gulf War. The loss of credibility from this failed attack still reverberates in the Joint Force, and was a direct result of the lack of tactical flight instruction in Army Aviation; still no major overhaul was made to the tactical flight curriculum in Army Aviation.

Continuing evidence of a gap in Army Aviation's tactical proficiency can also be found in shoot down reports from Afghanistan and Iraq. From October 2001 to September 2009, 70 total U.S. helicopters were downed due to hostile fire. Army helicopters accounted for 59 of these shoot downs, comprising 84% of all U.S. helicopter losses while flying 76% of all combat flight hours.[6] Fielding of equipment, such as the common missile warning system, to diminish the threat of man portable air defense systems (MANPADS), significantly decreased the threat of shoulder launched missiles and permitted aircraft to operate at higher altitudes yet many Army aviation units inexplicably continued operating at low altitudes. The results of these questionable tactics are obvious when viewing modern aircraft loss reports, where Army helicopters lead the joint force in shoot downs, almost entirely downed by small—arms fire or rocket propelled grenades (RPG) while operating at low altitudes.[7] For example, in 2011 and 2012, all U.S. helicopters that were shot down were Army rotary winged aircraft.[8]

A British Apache pilot who participated in combat operations alongside U.S. forces in Helmand Province, Afghanistan in 2010 made the following observation of U.S. Army helicopter tactics:

> "It was not uncommon to see all USMC, USAF, coalition and contractor helicopters operating above the 2000' AGL threat band (engagement range) of enemy heavy machine guns (HMG) and RPG as there was virtually no threat of MANPADS in our area of operations. Many U.S. Army Blackhawks and Kiowas would operate in Helmand Province below 500 feet, right in the middle of the enemy's kill zone. Why would these pilots expose their crews and passengers to the small arms and heavy machine gun threat that was always present? We were aware that both British and American aircraft defensive aides suites (DAS) would allow them to safely operate at higher altitudes. We never understood why many U.S. Army pilots

> refused to change their flight profile and lessen the risk they were exposing themselves, and their passengers to."[9]

While combat losses are a part of conflict, the culture in Army Aviation should be changed to reduce losses and increase the tactical proficiency of Army aviators. In the next conflict, the U.S. cannot fiscally tolerate, nor politically endure a failure of the Army's most expensive branch. A lack of trust would cause conventional Army Aviation to be the last choice in performing the nation's missions, threatening both its budget, and its role on the battlefield. Investment in training to prevent another tactical misstep may come at a reduced number of airframes or personnel, but this cost would be worth the gains a higher level of tactical preparedness would provide.

A formal tactical flight training curriculum would prevent further manifestation of these deficiencies, greatly reducing the number of shoot downs and deaths associated with downed Army aircraft. Army pilots should be educated and evaluated in tactical employment throughout their career by a service standardized organization responsible for holding individual aviators to the highest standards of tactical employment. This training would ensure aviators would not be reliant on what they were taught years earlier in flight school, but prepared to fight America's next threat with adaptive, intelligent tactics. A way to change

an organization's culture is to transform the education and training—exactly what is needed in the Aviation branch.

Revamping Training

Currently, the only formal tactical flight course an Army aviator attends is flight school

(FSXXI). It is important to note that this is likely the only tactical flight-training course an Army aviator will attend throughout his/her aviation career. Tactical flight training is a continual curriculum in all other U.S. services as an aviator's career progresses. The Air Force, Navy, and Marines rely on weapons and tactics instructors (WTIs) to bear the standard for tactical employment. Two training courses would align Army Aviation with the Joint Force, and advance Army Aviations tactical abilities: Weapons and tactics qualification Course (WTQC) for new Attack/Scout aviators and a selective mid-career advanced Weapons and Tactics Instructors Course (WTIC) for aviators of all aircraft mission design series.

The foundation of the U.S. Army Aviation Department of Tactics, Standardization, and Training (DTST) would oversee and conduct all proposed training. DTST would be charged with improving Army Aviation combat readiness and ensuring tactical standardization, not through rigid application of doctrine, but through an intensive program that enhances all aviators' potential in combat in the WTQC and WTIC. DTST would consist of qualified weapons and tactics instructor pilots and various experts on enemy weapons and TTP, performing a mission similar to the Department of Evaluations and Standardization (DES) but exclusively focused on developing, training, and evaluating tactics within Army Aviation. Instructors assigned here would be hand selected from across the branch to ensure exceptional quality is maintained. These WTIs would provide the service approved tactical flight instruction and evaluations for all U.S. Army pilots in both the WTQC and WTIC. DTST would also develop cutting edge tactics for the total U.S. Army helicopter force; it would have full integration with Fort Rucker Tactics Division and the joint aviation community and, much like sister service WTI programs, be the foundation of tactical knowledge for all Army aviators throughout their career. DTST could work for and report directly through the Department of Evaluations and Standards Director to the Aviation Branch Commanding General. A non-bureaucratic chain of command would enable rapid changes to be integrated into the curriculum as world events change and threats emerge, preventing adherence to outdated methods of employment.

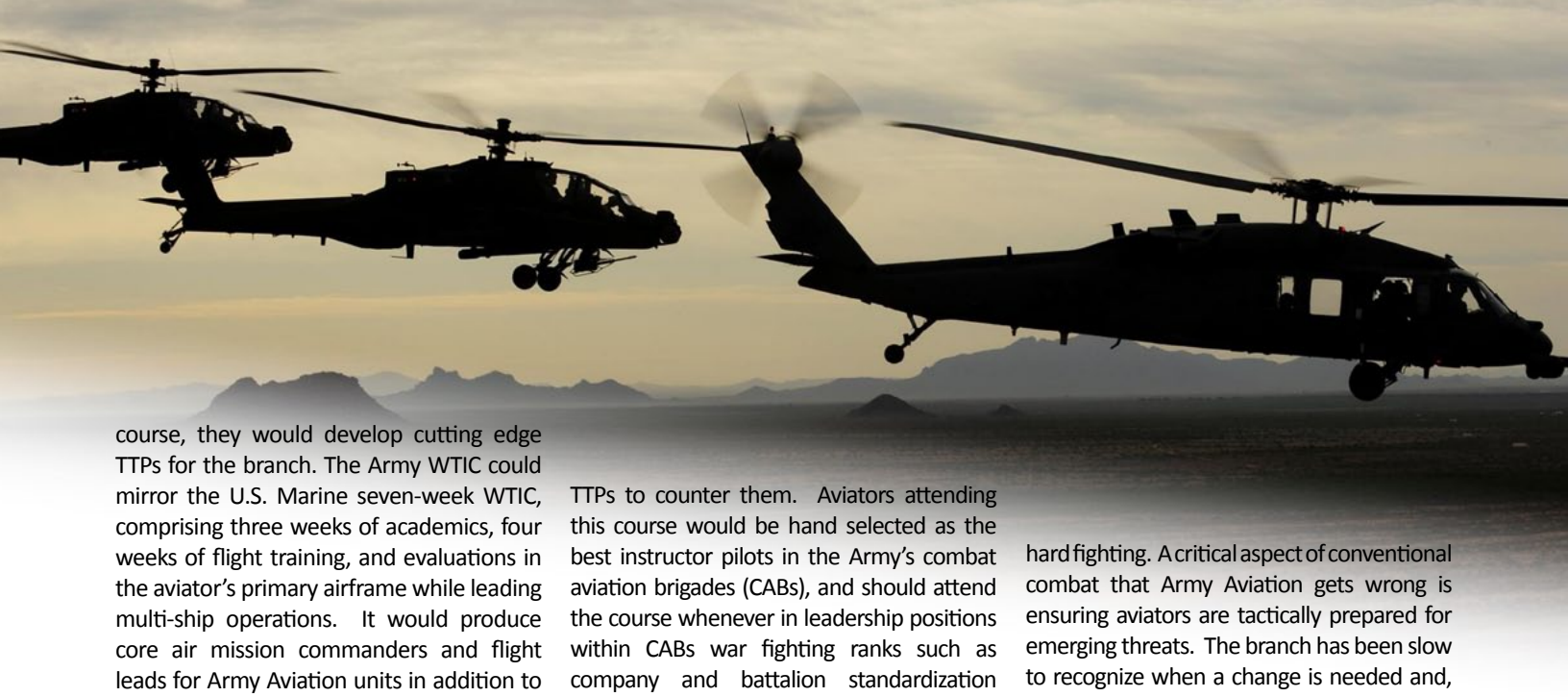
Weapons and Tactics Qualification Course

The first step to increasing the tactical abilities would be to specifically design a course for attack and scout pilots. These aviators would attend WTQC immediately after completing their individual aircraft qualification course (AQC). Only weapons familiarization, terrain flight navigation, and night system qualifications would be required in the FSXXI/AQC curriculum. WTQC would provide the remaining tactical training. WTQC training would begin as an individual level training, covering all service and joint standardized TTP, standing operating procedure weapons, and aircraft employment methods that attack and scout aviators could expect to utilize in potential theatres of operation. The training would involve basic tactical employment of weapons in simulators and in live-fire events focusing on a mastery of each weapon system. Students would demonstrate mastery of these skills in a variety of threat environments before graduating and being assigned to their operational battalion. WTQC would teach the students methods for operating in the high intensity fight and the low/medium intensity fight, and require aviators to demonstrate the flight skills essential to fighting both.

The course would encourage "outside the box" thinking, and greatly enhance Army aircraft survivability through educating, demonstrating, and evaluating each aviator's ability to employ their aircraft in combat. The attack and scout communities' base level of knowledge would improve dramatically, producing fully competent aviators proficient in using all systems and weapons, reducing the current disparity across Army Aviation. Live, graded, tactical flying against threats early in an aviator's flying career is critical to the future readiness of U.S. Army attack and scout pilots. WTQC not only would provide aviator confidence and understanding in the aircraft systems, but would also encourage adaptive thinking in future engagements.

Weapons and Tactics Instructor Course

The second, and most critical component, to a modernized training program is the WTIC. WTIC would be an advanced flight instruction course for experienced instructor pilots at the senior CW3/4 and MAJ/LTC levels. The WTIC would teach aviators advanced tactics and instruction techniques for employing their aircraft and weapons systems. Unlike the WTQC, the WTIC would include instructor pilots from all mission design series aircraft, including unmanned aircraft systems. While, attending this



course, they would develop cutting edge TTPs for the branch. The Army WTIC could mirror the U.S. Marine seven-week WTIC, comprising three weeks of academics, four weeks of flight training, and evaluations in the aviator's primary airframe while leading multi-ship operations. It would produce core air mission commanders and flight leads for Army Aviation units in addition to providing a forward air controller (Airborne) qualification to attack and scout aviators.

The duties of a USMC weapons and tactics instructor are: Manages a unit weapons and tactics training program, performs classroom and flight instruction on various facets of the weapons system, provides instruction in the operations and employment of weapons systems, analyzes performance and provides corrective guidance, and instructs current enemy capabilities and the tactics to counter enemy threats.[10] The U.S. Army's WTIC would mirror these functions and serve as a mid-career update to instructor pilots on current and future threats and TTPs to counter them. Aviators attending this course would be hand selected as the best instructor pilots in the Army's combat aviation brigades (CABs), and should attend the course whenever in leadership positions within CABs war fighting ranks such as company and battalion standardization instructor pilots, master gunners, and field grade commissioned officers in leadership positions. Such an integrated, modernized tactical flight instruction course would help put Army aviators on the path to improving the lethality and combat effectiveness of this esteemed force.

Conclusion

The wars in Afghanistan and Iraq have highlighted many capabilities and limitations of the U.S. Army. One mission Army Aviation gets right is the ability to respond to the needs of the ground force commander. No other organization has such a close relationship to its ground brethren, forged through years of hard fighting. A critical aspect of conventional combat that Army Aviation gets wrong is ensuring aviators are tactically prepared for emerging threats. The branch has been slow to recognize when a change is needed and, as evidence proves, such changes are rarely achieved until blood is shed. Army Aviation should improve its tactical flight training in order to remain relevant and ready for the nation's next enemy. U.S. Army Aviation should learn from the branch's performance and institute an Army WTIC to develop, teach, and evaluate relevant tactics to Army Aviators throughout their careers. A higher level of tactical competence spread throughout Army Aviation CABs would ensure a critical vulnerability exposed during the last two major conflicts is corrected. These courses would provide Army aviators the tools to defeat future threats without having to relearn lessons of the past.

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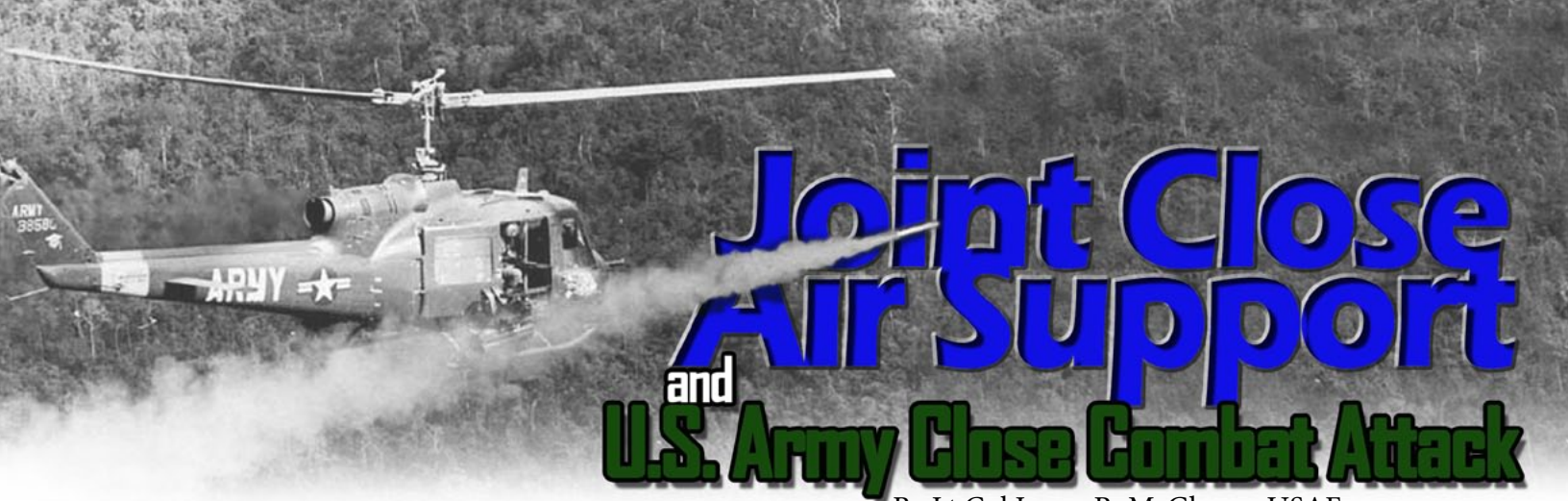
Acronym Reference

AQC - aircraft qualification course
CAB - combat aviation brigade
DES - Department of Evaluations and Standardization
DTST - Department of Tactics, Standardization, and Training
MANPADS - man portable air defense systems
RPG - rocket propelled grenades
TF - task force
TTP - tactics, techniques, and procedures
WTI - weapons and tactics instructor
WTQC - Weapons and Tactics Qualification Course
WTIC - Weapons and Tactics Instructors Course



Joint Close Air Support and U.S. Army Close Combat Attack

By Lt Col James R. McGlone - USAF

While the terms close combat attack (CCA) and close air support (CAS) have been around for a while and generally understood, I have participated in discussions that led me to believe that there are still uncertainties in these two distinctly different methods of providing the maneuver commander with critical attack aviation support. The purpose of this article is to make a distinction between the two terms, and is not intended to serve as an instructional "how to" for either of these types of engagements. I will highlight the differences between the two engagements, discuss the commander's tactical risk assessment and engagement authorities for both types of engagements, and advocate for additional training and education that might better serve maneuver commanders.

A Soldier manning a light anti-armor weapon in a direct fire engagement is placed in a designated fighting position with clearly defined left and right limit stakes annotating his field of fire and rules of engagement. An attack helicopter in a battle position operates under the same controls. The authority for each of these weapon system operators is derived from the same source—the maneuver commander owning that operational environment. As this concept has expanded to an attack helicopter battalion engaged in widely distributed counterinsurgency operation, confusion began to emerge between this concept of a simple direct-fire engagement in support of a habitually aligned maneuver commander and the in-direct fire engagement known as CAS. As a result of this distinction, the definition of CCA emerged.

Close Combat Attack

ATP 3-09.32 states that—

a. United States [U.S.] Army CCA is defined as a coordinated attack by Army aircraft against targets that are in close proximity to friendly forces. Once the aircrews receive the situation update brief from the ground commander/observer, they develop a plan to engage the enemy force, while maintaining freedom to maneuver. Due to capabilities of the aircraft and the enhanced SA [situational awareness] of the aircrews, terminal attack control from ground units or controllers is not required.

b. Army aviation. Army aviation units are organic, assigned, or attached to corps, divisions, and regiments and perform missions as part of a combined arms team. Army aviation assets normally receive mission-type orders and execute as an integral unit/maneuver element. Special situations may arise where attack aviation assets are employed in smaller units. The doctrinal employment method is as an integral unit, operating under the control of a maneuver commander executing mission-type orders. As part of the maneuver force, clearance of fires is not required. Army attack aviation elements conduct direct fire engagements IAW [in accordance with] the commander's intent and ROE [rules of engagement].

c. CCA is not synonymous with CAS. The Army does not consider its attack helicopters and organic, armed UAS [unmanned aircraft system] a CAS system. Although some Army aircrews may be proficient in CAS TTP [tactics, techniques, and procedures], JTACs [joint terminal attack controllers] should not expect Army attack aviation assets to perform CAS TTP without further coordination and training since they are normally employed utilizing CCA as the standard attack method."

Close Air Support

ATP 3.09.32 states that—

"CAS is air action by FW [fixed-wing] and RW [rotary-wing] aircraft against hostile targets that are in close proximity to friendly forces, and requires detailed integration of each air mission with the fire and movement of those forces. Planning and executing safe and effective CAS should include a terminal attack controller who is specifically trained and qualified to conduct terminal attack control, achieve the ground commander's intent, maximize and integrate fires on the battlefield, and mitigate fratricide."

Key Differences

The CCA five-line briefing is an observer-centric brief designed to cue the attacking aircraft onto a target for a direct-fire engagement that does not require terminal control. In short, if a five-line CCA brief is given to an asset, that asset is expected to begin engagement without any further clearance or restrictions. According to ATP 3-09.32, "Transmission of the 5-line CCA Brief IS [italics added] clearance to fire (unless danger close)." Conversely, CAS briefings and engagements

are target-centric indirect-fire engagements that require terminal control by a trained and qualified observer. If we give a nine- or five-line CAS brief to an asset, it is expected that they follow some sort of clearance or abort protocol in the conduct of their engagement.

Commanders and Tactical Risk Assessments

A maneuver commander is in control of all the various forms of "fires" and therefore, retains the ability to control the priority, effects, and timing of all surface-to-surface and air-to-surface engagements in the area of operations (AO). In all but some unique ROE-based situations, such as emergencies and some forms of self-defense, control by the maneuver commander must be maintained as the overall joint force commander (JFC) assigned him the AO and the control for a reason. In a similar way, maneuver commanders are given the responsibility of making continuous tactical risk assessments. Current doctrine is replete with guidance to commanders in the realm of risk mitigation. Decisions and control of fires with respect to tactical risk to friendly forces go hand-in-hand with the maneuver commander's delegated AO and unit responsibilities. It is important that aviators and advisors to these commanders keep them educated and informed about the risks that these engagements entail, regardless of their TTP (CAS or CCA).

In the case of CCA, ATP 3-09.32 states that "The air mission commander (AMC) or flight lead must have direct communication with the ground commander/observer on the scene to provide direct fire support." It might be added that it is important for the AMC or aircrew involved to understand who the observer is and (in other than emergency situations) know that he or she is indeed supporting the commander of the AO in which the engagement terminates.

In the Joint and/or Combined Environment

A review of available doctrine, education, and tactical-level training shows that the joint/combined CAS community has come a long way toward standardization, clarification, and quality of training given to joint CAS (JCAS) participants. However, a search for CCA provides much more limited information, confined (appropriately so) to U.S. Army doctrine. This is because CCA engagements are designed to be conducted within the U.S. Army combined arms system.

There should be no confusion whether an engagement is a CAS or a CCA engagement. Without appropriate JCAS participation and training (such as exists within the Special Operations Forces [SOF] community), U.S. Army aviation assets should not (excepting self-defense and other situations if ROE support them) perform CCA engagements in support of any force that is not their own "organic" combined army U.S. Army team.

Summary and Advocacy for Joint-Fires Education

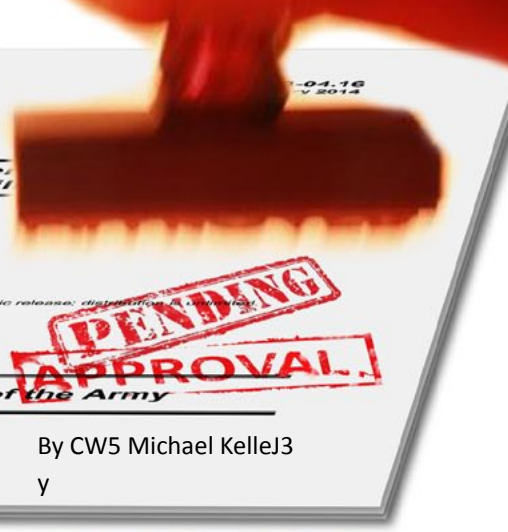
Close combat attack engagements restrict the flexibility and overall joint-force usefulness of U.S. Army aviation assets. U.S. Army leaders should keep CCA as a quick and responsive form of direct-fire engagement and keep their attack assets confined to this U.S. Army-only TTP. However, in future joint and coalition warfare, they are denying the overall JFC the flexibility and responsiveness inherent in airpower if CCA is the attack helicopter's only form of engagement. In contrast, "signing up" as a full-up participant in the JCAS community comes with high cost in terms of training, education, and flying hours (for another overview and perspective on this, see CW4 Michael Boyle's article in ALSB 2010-2). However, having operated in both systems and performed both types of engagements in both RW and FW aircraft as a ground and forward air controller, I believe that the synergistic benefits of adding CAS TTP to an Army aviator's overall "bag of tricks" will provide a return on investment to the overall joint force that far outweighs the associated costs.

Lt Col James R. McGlone is the Air Force Liaison to the US Army Aviation Center. Prior to entering the USAF, Lt Col McGlone served in the U.S. Army in various assignments culminating as a Chief Warrant Officer flying the AH-1 in Operation Desert Storm. He entered the Air Force in 1995 and following Officer Training School and pilot training he served as an A/OA-10, EA-6B, F-117 as well as a T-37 instructor pilot. He has flown numerous combat missions in support of Operation Southern Watch, Northern Watch, and Iraqi Freedom.

Acronym Reference

CCA - close combat attack	**FW** - fixed wing
CAS - close air support	**RW** - rotary wing
IAW - in accordance with	**JFC** - joint force commander
ROE - rules of engagement	**AO** - area of operations
UAS - unmanned aircraft system	**AMC** - air mission commander
TTP - tactics, techniques and procedures	**JCAS** - joint close air support
JTAC - joint terminal attack controllers	**SOF** - special operations forces

THE COMMANDER'S AVIATION MISSION SURVIVABILITY PROGRAM: TC 3-04.16 (DRAFT)



By CW5 Michael KelleJ3
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The Survivability Branch team within the Directorate of Training and Doctrine is nearing completion of "The Commander's Aviation Mission Survivability Program" Training Circular (TC) 3-04.16. Currently in draft form, this TC represents the culmination of significant development time and will result in providing aviation commanders a guide to implementing a comprehensive aviation mission survivability (AMS) program.

Lessons learned from Operation Desert Shield and Desert Storm identified a lack of knowledge of aircraft survivability equipment and a minimalistic approach to survivability focused training prior to Army Aviation's employment in the Iraqi deserts. Since that time, Army Aviation has been making improvements to the AMS program incrementally. This TC will mark the first doctrinal reference for commanders and their assigned aviation mission survivability officer (AMSO) in defining the commander's AMS program.

The AMS program ensures the preservation of aviation combat power through advanced mission analysis and planning and the evaluation of enemy threat capabilities—threats to aviation operations and personnel recovery. In order to achieve desired goals, the program includes aircraft survivability equipment program management, integration of the aviation mission planning system, support to the intelligence and operations sections, advanced electronic aviation mission rehearsal, and refinement of aviation tactics/counter-tactics. AMS training is a fundamental requirement for each area and spans from individual training to advanced crew and collective tactics evaluation. Topics include aviation tactical response to threat system engagement, aviation mission planning, and threat risk reduction.

The intent of a comprehensive AMS program is to reduce the effectiveness of the enemy's capability to target aircraft during operations and to increase the survivability of the platforms, crew, and passengers resulting in the preservation of the commander's combat power. Over the last twelve years, the focus, scope, and intent of the AMSO have been refined to ensure the commander receives the support required to achieve these goals. This necessitated the creation of the commander's AMS guide in order to provide the AMSO guidance on tasks required to ensure program success.

The content in TC 3-04.16 is provided as implementation guidance for commanders and their assigned AMSO. Chapter 1 is dedicated as an overview for commanders, staff, and aircrew to understand the intent of the program and what to expect from each level of support. The remaining chapters of the base TC are dedicated to providing the AMSO specified guidance on implementing the program within the aviation formations. The chapters are divided into the main areas of focus beginning with AMS program management, combat survivability analysis, and survivability focused training. This TC will also provide the AMSO detailed program management guidelines for the aircraft survivability equipment, aviation mission planning system, and personnel recovery programs within aviation formations. Appendices are provided as guides, best practices, and techniques to complete tasks associated with the program.

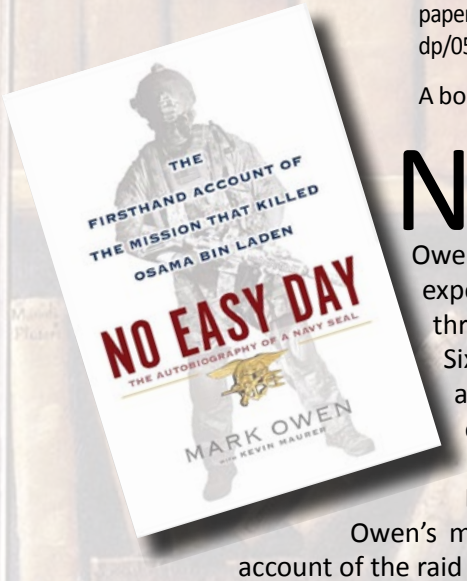
TC 3-04.16 has been through several iterations of staffing within the United States Army Aviation Center of Excellence's (USAACE) Directorate of Training and Doctrine. On 5 June 2013, USAACE staffing was completed and all comments received were resolved. On 28 June 2013, the TC entered worldwide staffing which closed on 7 August 2013. Once worldwide staffing comments are adjudicated, the TC will be edited, sent to the Commanding General, USAACE for final approval, and finally, sent to the Army Publication Directorate for publication and distribution.

CW5 Michael Kelley is the Branch Aviation Mission Survivability Officer. He has over 29 years of active duty service with duty at Fort Wainwright, AK; Fort Sill, OK; Fort Campbell, KY; Camp Humphreys, ROK; Gieblestadt, FRG; and Fort Rucker, AL. He has one combat deployment to Iraq and three to Afghanistan as a CH-47D pilot and Aviation Mission Survivability Officer.

TURNING PAGES

~ book reviews of interest to the aviation professional

No Easy Day: The Firsthand Account of the Mission That Killed Osama Bin Laden



By Mark Owen. Penguin Group (USA) Inc., 375 Hudson St. New York, NY 10014 565pp. Available in hardcover, paperback, Kindle, and CD audiobook at http://www.amazon.com/No-Easy-Day-Firsthand-Account/dp/0525953728

A book review by WO1 Robert Burcham

No Easy Day is a compelling account of Operation Neptune Spear in which Mark Owen takes the reader on a step-by-step account of the raid inside the compound that killed the terrorist mastermind Osama Bin Laden. Mark Owen, a pseudonym selected by the author for security reasons, is a highly experienced veteran and has completed hundreds of missions across the globe throughout his 12- year career as a Navy Seal and former member of Seal Team Six. In his book, he describes the grueling process of becoming a Navy Seal, and chronologically unfolds the events that result in the successful joint force operation: "Operation Neptune Spear".

Embedded throughout the book from the preface to the final chapter, is Owen's main purpose for writing the book—to provide to the public an accurate account of the raid that killed Osama Bin Laden. Owen's intentions are to clarify any confusion of the raid, and to provide the public with a first-hand account of how the operation took place.

The first eight chapters of No Easy Day provide the audience with details of the harsh and demanding variables involved in making the cut as a Navy Seal. The reader receives a descriptive idea of the punishing training as Owen recounts some of his coping techniques like, "just making it to the next meal" that he used during the nine-month selection course for Seal Team Six. The months of training created a strong camaraderie amongst the team members and played a large role in their success throughout many complex missions. Owen provides a firsthand account of several significant missions that his team performed; such as the successful rescue of Captain Richard Phillips from Somali pirates in 2009. In the first section of the book, Owen recounts several other similar missions; all leading up to his most significant event, Operation Neptune Spear.

The last ten chapters of No Easy Day reveal details of intelligence gathering, planning, and the execution of the raid that lead to the death of Osama Bin Laden. The depth, detail, and quantity of intelligence that was gathered, along with the amount of planning that went into the mission was incredible. Owen describes mission preparation events discussing team rock drills (mission rehearsal events), viewing animated clips of the infiltration, and performing several live exercises involving a scaled replica of the Pakistani compound. The lesson learned to the military leader is that the success of this mission by this elite military unit emphasizes and proves the importance of accurate intelligence, rehearsals, and performing contingency scenarios.

Mark Owen's account of Operation Neptune Spear explains one person's perspective of the complex raid. Aside from any controversy the release of the book may have brought, the extensive collective coordination, cooperation, and integration by many different U.S. agencies throughout the operation was impressive. Owen's in-depth knowledge and experiences and casual presentation made the book an easy read. All in all, Owen achieved his objective in No Easy Day, and provided the reader with his account of events of the raid. I recommend this book to any leader because it demonstrates the importance of a mission-focused mindset, disciplined initiative, and knowing your job better than anyone else.

10TH COMBAT AVIATION BRIGADE

Headquarters and Headquarters Company, Aviation Brigade, 10th Mountain Division was constituted and activated in the Regular Army at Fort Drum, New York on 1 April 1988. It was subsequently reorganized and redesignated on 19 September 2005 as Headquarters and Headquarters Company, Combat Aviation Brigade, 10th Mountain Division.

The 10th Aviation Brigade has participated in all Division missions, to include support for Hurricane Andrew Relief in South Florida, Operations Restore Hope and Continue Hope in Somalia, Operation Uphold Democracy in Haiti, SFOR and KFOR missions in Bosnia and Kosovo and most recently, Operations Iraqi Freedom in 2008 and Operation Enduring Freedom in 2003, 2006, 2010, and 2013. In each instance, the Brigade demonstrated its capability to rapidly deploy and conduct aviation missions upon arrival while emphasizing safety and readiness.

10th Combat Aviation Brigade has been awarded the Meritorious Unit Commendation (Army), Streamer embroidered SOMALIA; Meritorious Unit Commendation (Army), Streamer embroidered Afghanistan 2003-2004; and Meritorious Unit Commendation (Army), Streamer embroidered Iraq 2008-2009.

Today, the 10th Combat Aviation Brigade stands ready to deploy in support of contingency operations worldwide.

***Editor's note**: Multiple On-line resources incorrectly trace the 10th Combat Aviation Battalion's lineage to the 10th Aviation Battalion which was activated on 23 August 1965 at Fort Benning, GA and deployed to Vietnam that same month. The U.S. Army Center of Military History, who has the responsibility to provide force structure and historical support to military planners, does not link these two distinct and separate units.*

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