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Operation Enduring Freedom Aviation Operations November 2008

Initial Impressions Report



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EXECUTIVE SUMMARY

In an environment where ground maneuver is limited at best and the terrain dominates tactical planning, Army Aviation has become the principal form of maneuver in Afghanistan. The Combat Aviation Brigade (CAB) and its Aviation Battalion Task Forces organized as Multi-functional Aviation Task Forces (MATF) are dominant maneuver and maneuver support forces on the Afghanistan battlefield. They demonstrate on a daily basis their lethality, agility, creativity, and mastery of a complex fight. To document lessons learned from current CAB operations in Afghanistan, the Center for Army Lessons Learned (CALL) initiated, and with assistance from the US Army Aviation Center of Excellence (USAACE), deployed a Collection and Analysis Team (CAAT) to observe and collect aviation issues. The CAAT focused on addressing issues related to Air Assault and Air Movement operations, Attack and Reconnaissance operations, Unmanned Aerial Systems (UAS), Medical Evacuation (MEDEVAC) and Command and Control issues.

The Division deployed the CAB in support of Operation Enduring Freedom (OEF) from December 2007 through January 2009. The CAB's mission was to conduct full spectrum aviation operations in support of the CJTF's counterinsurgency operations throughout the Afghanistan area of operations (AOR). The CAB effectively task organized into four tailored MATFs to meet mission requirements in four geographically distinct AORs shaped by different environmental challenges, missions, enemy, terrain, weather, and available support. Each task organized MATF conducted reconnaissance, security, attack, air assault, air movement, and C2 operations. Two MATFs supported the CJTF's requirements in separate AORs and the remaining two MATFs are in direct support (DS) of the Brigade Combat Teams (BCTs) operating in their respective AORs.

With the challenging terrain in Afghanistan, air assault operations are the dominant form of maneuver in combating the insurgent force. Air movement operations are vital for enhancing shaping operations to support remote Forward Operating Bases (FOBs) and Combat Out-Posts (COPs) which are required to curtail insurgent freedom of maneuver. Two MATFs conducted full spectrum operations in a General Support (GS) role, specifically air assault and air movement operations, along the CJTF's logical lines of operation, to support the separation of the insurgent threat from the populace. The other two MATFs conducted air assault operations, in a Direct Support (DS) role, synchronized with their respective BCTs' counterinsurgency logical lines of operation.

Aviators executed the majority of Attack and Reconnaissance operations in direct support (DS) to ground maneuver BCT. Army Aviation Commanders also leveraged a wide array of Joint Aviation capabilities in their fight. Attack and Reconnaissance aircraft success in Joint Aviation Operations with USAF and coalition aircraft required active measures to gain situational awareness on the

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part of the Army Aviation Commander, integration of new technologies on Recon and Attack aircraft, and coordination with Joint Tactical Air Controllers (JTAC) embedded in ground maneuver elements.

Special note must be made of the OH-58D Kiowa Warrior helicopter. The OH-58D, once excluded from the AOR, is now the highest OPTEMPO aircraft on the battlefield and in many cases, as reported by the MATF commanders, the most lethal aircraft on the battlefield. Its relatively simple design is effective, efficient, and reliable and gives the commander "eyes on target" in an up-close form and it has the ability to effectively close with and destroy the enemy. Although commanders were restricted in their use of the OH-58D in Afghanistan, specifically at pressure altitudes greater than 6000 feet, commanders have accepted this restriction, incorporated it into their planning and kept the aircraft relevant and highly effective. The OH-58D has again revalidated the requirement for a light reconnaissance aircraft within Army Aviation.

The most significant mission challenge faced by the CAB commander is the lack of sufficient MEDEVAC assets to provide the expected level of care, response times, and redundancy to provide the operational depth necessary to cover two Regional Commands in the AOR. Many unique solutions were implemented, such as USAF aircraft and crews, to supplement and cover the shortages in both aircraft and trained medical and maintenance personnel. However, these problems are systemic and require Department of the Army solutions. Despite these severe shortcomings, the MEDEVAC mission continues to provide world-class care to U.S., coalition and host nation patients.

The UAS assets of the CAB have proven very successful on the battlefield and are in extremely high demand by all supported units. However, both of these systems were new and recently fielded to the CAB which tended to present several technical issues inherent in newly fielded systems. UAS continued to evolve as a significant part of the Combined Arms team, and although there are such limited numbers of UAS on the battlefield, units must be prepared to conduct operations with these systems when they are available. It is important that aircrews have a full understanding in regards to capabilities of UAS to execute functions that enhance the effectiveness of all Aviation systems and missions.

Command and Control of the CAB in Operation Enduring Freedom presented a number of significant challenges for the CAB Commander. The unit was successful due to effective task organization of the subordinate Aviation Battalions, use of the available technology for synchronization, and development of tools that streamlined the decision making process for Aviation Operations.

This publication was developed using interviews with the CAB command and staff as well as the command and staff elements of the MATFs. The CAB

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leadership directly facilitated the movement of the CAAT throughout the AOR and enabled unfettered access to their units despite the continuous and extremely high operational pace.

Chapter 1 Air Assault and Air Movement Operations

Let your plans be dark and as impenetrable as night, and when you move, fall like a thunderbolt.
-Sun Tzu, Art of War

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Summary

The Combat Aviation Brigade's mission was to conduct full spectrum aviation operations in support of CJTF 101's counterinsurgency operations throughout the Afghanistan area of operations (AOR). According to *FM 3-04.111, Aviation Brigade*, dated December 2007, the CAB by design is to task organize and operate as Aviation Battalion Task Forces (ABTF) based on METT-TC. Additionally, the field manual recognizes that the CAB can realistically task organize into only three ABTFs and conduct simultaneous split-based operations. The 101st CAB effectively task organized into four Multi-functional Aviation Task Forces (MATF; tailored ABTF) to meet mission requirements in four geographically distinct AORs shaped by different environmental challenges, missions, enemy, terrain, weather, and available support. Each task organized MATF conducts reconnaissance, security, attack, air assault, air movement, and C2 operations. Two MATFs support CJTF 101 requirements in separate AORs and the remaining two MATFs are in direct support (DS) of the Brigade Combat Teams (BCTs) operating in their respective AORs. The observations in this chapter focus on air assault operations, air movement operations, and related enablers of maneuver in the noncontiguous counterinsurgency battlefield of Afghanistan.

With the challenging terrain in Afghanistan, Air assault is the dominant form of maneuver in combating the insurgent force. Air movement is vital for enhancing shaping operations in Afghanistan to support remote Forward Operating Bases (FOBs) and Combat Out-Posts (COPs) required to curtail insurgent freedom of maneuver. Key enablers for air assault and air movement operations include the issues cited in each of the topics.

Two MATFs conduct full spectrum operations in a General Support (GS) role, specifically air assault and air movement operations, along CJTF 101 logical lines of operation to support the separation of the insurgent threat from the populace. Air assault operations for these two MATFs usually maneuver company-sized assault forces over extended distances and extreme terrain to destroy or capture enemy forces. The supported ground maneuver units, to include special operations units, request deliberate mission support through the CJTF to the CAB in a 72-96 hour planning sequence.

The other two MATFs conduct air assault operations, in a Direct Support (DS) role, synchronized with their respective BCTs' counterinsurgency logical lines of operation. The supported BCTs submit mission requirements directly to the MATFs and execute deliberate operations in a 48-72 hour planning sequence. Due to the diverse and extreme terrain in each Area of Responsibility (AOR), the helicopter landing zone (HLZ) selection and development process drives the ground commander's scheme of maneuver. Resultantly, there is significant paradigm shift from the doctrinal method of the ground tactical plan driving all other elements of air assault planning and execution. Supported ground commanders must understand the subsequent relationship between the Landing Plan and the Ground Tactical Plan.

The CJTF commander integrated the HLZ selection, development, and approval process as the principle element in the aviation composite risk mitigation for the CJTF Command Group. Missions estimated at a moderate risk due to HLZ and terrain or threat, required mission approval by the CAB Commander. Missions estimated at high risk due to HLZ and terrain required the CJTF Deputy Commander for Operations (DCO) approval through the daily Concept of Operations brief. HLZs not only drive the ground tactical plan but are approved two levels above the MATF commander as a component of the CJTF composite risk management plan. This significantly affects the air assault or deliberate mission planning process for MATFs conducting split-based operations in geographically disparate AORs. The HLZ selection and development phase of the air assault planning requires detailed knowledge of the terrain in the objective area. Detailed imagery and analysis is not available to the lowest tactical level, specifically the MATFs, within the 48-72 hour planning cycle to support the air assault planning and execution. High-resolution imagery and multi-spectral products are required during the initial phase of air assault planning, specifically the HLZ selection and development portion of the landing plan. However, high-resolution imagery request through the CJTF normally exceed 72-96 hours for product delivery. Several MATFs improvise with commercial software systems such as Google Earth or rely on informal relationships with special operations forces for occasional imagery support. Both improvised methods fall short of providing the required imagery products to conduct effective and timely HLZ selection and development. The MATFs require direct support in providing the

timely exploitation of national and commercial imagery and spectral data from space and airborne sensors from Spectral Operations Resource Center (SORC), Army Space Support Teams (ARSST), or USSTRANSCOM Support Teams (SSTs).

Air Assault Task Force (AATF) commanders and Air Mission Commanders (AMC) in each Multi-functional Aviation Task Force (MATF) adopt non-standard air-ground techniques to mitigate the effects of terrain, environmental conditions, and low illumination. AATF commanders and AMCs integrate and execute illumination tasks as pre-planned fires on the objective using Air Force Close Air Support (CAS) aircraft or Army Unmanned Aerial Systems (UAS) assets. These tasks include area illumination with infrared flares (IR) and highlighting HLZs, Objectives and targets with IR laser illuminators. CAS aircraft or organic attack aircraft also conduct observation and assessment with electro-optical (EO) systems and relay the status of HLZs and Objectives (CHERRY/ICE call). MATFs use various communications networks to queue these innovative techniques and capitalize on available technology.

The 101st CAB, 159th CAB, and the 82nd CAB all have one organic Pathfinder Company each. For this rotation, the 101st CAB task organized their organic Pathfinders into each MATF in order to maintain a Personnel Recovery (PR), Downed Aircraft Recovery Team (DART), and Quick Reaction Force (QRF) capability in each AOR. Pathfinders are the principle security and recovery elements for PR. They use cordon and search TTPs to execute PR missions. The MATFs capitalized on, and broadened the Pathfinders' core external load rigging tasks to include downed aircraft rigging and sling-load operations to support downed aircraft recovery operations. Pathfinders in each MATF also conduct traditional HLZ establishment and improvement missions. The Pathfinders played an invaluable role in the CAB's success and executed actual PR and DART missions to recover American aircrew and aircraft in the rugged mountainous terrain while under enemy fire.

Topic 1.1: Task organization and pre-deployment training

Discussion

The Army Force Generation (ARFORGEN) cycle significantly restricted the CAB's ability to task organize and effectively train as Aviation Battalion Task Forces prior to deployment. The CAB task organized into four Multi-functional Aviation Task Forces (MATF) conceptually "on paper" on or about D-180 but the organic battalions remained organizationally intact until each battalion deployed and integrated into their respective Areas of Responsibility (AOR). The ARFORGEN timeline significantly restricted the availability of key personnel for the proposed task organization, limited the availability of aircraft due to RESET, and reduced the CAB commander's flexibility in executing the required re-

deployment task organization. Two task forces with the General Support Aviation Battalion (GSAB) and Air Assault Battalion HQs were task organized in support of CJTF 101. The other two task forces, organized around the Attack / Reconnaissance Battalion (Heavy) and Attack / Reconnaissance Squadron (Light), were task organized in direct support of the Brigade Combat Teams (BCTs) assigned to their respective AORs. The Division resourced the CAB and subordinate battalions for extensive pre-deployment training to include the High-Altitude Aviation Training Site (HAATS) qualification for aircrews, environmental training at Ft. Bliss, Texas, and rotations at the Joint Readiness Training Center (JRTC). The battalions executed each training event with some representative elements of their respective MATF (i.e. the GSAB took AH-64Ds and OH-58Ds to each training event). The ad hoc organization for training did allow battalions to familiarize staffs and subordinate elements with the various missions and roles of incoming units. However, most MATFs did not conduct task force level collective training with all elements to include scenario driven combined Table VIII live fire, integrated air assault operations, or air-ground integration. Early task organization would help set the conditions for combined operations to include the battle staffs, unity of command, Pathfinder integration, and aviation sustainment.

Insights/Lessons

Each battalion successfully integrated and trained Aerial Gunners for the Utility Helicopter (UH) and Cargo Helicopter (CH) aircraft, from within the CAB, along the optimal timeline of D-180.

Early task organization allows staffs to develop timely sustainment plans, review Theater Provided Equipment (TPE) parts and equipment, and submit Additional Supply Lists (ASL) for theater while at home station.

The task organization to MATFs and deployment to key AORs enabled decentralized operations in accordance with Counter Insurgency Operations (COIN) doctrine and enabled dominate maneuver through air assault and air movement in assigned AORs.

Pre-deployment task organization and subsequent collective training effectively develops battle-staff proficiency in employing all elements of the Task Force especially Pathfinder elements for Personnel Recovery (PR) and Downed Aircraft Recovery Team (DART) operations.

The integration and use of the Army's collaborative Command, Control, Communications, Computers, and Intelligence (C4I) systems (Command Post of the Future (CPOF), Blue Force Tracker (BFT)/Army Battle Command and Control (ABC2), etc) during pre-deployment training ensured battle staff proficiency with the MATFs.

Resourcing high-altitude training, environmental training, gunnery, and CTC rotations effectively prepared battalions for combined operations.

Topic 1.2: Standardized threat-based TTPs

Discussion

The Combat Aviation Brigade (CAB) used a “bottom-up” approach for developing the threat picture and implement into each Task Force’s counter-threat tactics, techniques, and procedures. The CAB S2 led and implemented a bottom-up approach to assessing the threat over the large and diversified areas of operations. The CAB S2 developed an independent threat assessment by pulling near real-time Intelligence Summaries (INSUM) from their counterparts in the 82nd CAB via collaborative Command, Control, Communications, Computers, & Intelligence (C4I) systems prior to deployment. The CAB completed their Intelligence Preparation of the Battlefield (IPB) and validated the assessment with the 82nd CAB. Terrain and tribal relationships were key factors in developing the overall threat picture with significant differences delineated by tribal regions and terrain. The CAB S2 developed the threat assessment to aviation operations by location and categorized the threat by areas surrounding Forward Operating Bases (FOBs) and Combat Out-posts (COPs). The Multi-functional Aviation Task Force (MATF) S2s further developed the threat assessment for the Forward Operating Bases (FOBs) and Combat Out-Posts (COPs) within their respective areas of responsibility (AOR). The BDE combined the subordinate assessments into a common threat-operating picture.

The CAB adopted the Air Threat Working Group (ATWG) from the previous CAB to synchronize, validate, and update the overall and local threats to aviation operations. The ATWG consolidated the subordinate MATFs’ threat picture at regular intervals through collaborative C4I systems. The ATWG integrated input from other aviation elements and agencies to include the U.S. Air Force (USAF), Afghanistan National Army (ANA) Air Corps, Special Operations Forces (SOF), Combined Air Operations Center (CAOC), and contractor flight operations. The CAB S2, S3, and Tactical Operations Officer (TACOPNS) developed and implemented a standardized FOB Threat Assessment Matrix to associate the appropriate Tactics, Techniques, & Procedures (TTPs) with a FOB threat and aid the MATF commanders in mitigating the threat relative to each operation. The CAB staff validated the applied TTPs to mitigate the threat for each mission in the daily Contingency Operations (CONOPS) Brief.

Insights/Lessons

The CAB effectively combined decentralized (bottom-up) threat assessments from each MATF with a standardized set of tactics, techniques, and procedures

(TTPs) in a decision support matrix to support decentralized Task Force aviation operations in significantly diverse threat and terrain environments.

Each MATF faced different threats by AOR determined by terrain, tribal relationships, and enemy capabilities. Each MATF developed threat assessments for their respective AOR and associated the risks with each FOB and COP within their AOR.

The CAB develops a common threat picture by combining and synchronizing the threat assessments of each MATF through collaborative C4I systems and the Air Threat Working Group (ATWG).

The CAB developed a standing threat-to-TTP matrix identifying the appropriate TTPs for a given threat associated with mission AORs. The MATFs' executed mission TTPs based on capabilities (i.e. availability of organic attack aircraft to escort missions into high-risk areas) in accordance with the threat-to-TTP matrix.

Topic 1.3: Primacy of Helicopter Landing Zone (HLZ) in Air Assault planning

Discussion

Helicopter Landing Zone (HLZ) selection, development, and approval of the landing plan for air assault operations drives the scheme of maneuver and ground tactical plan. Two-thirds of the Afghanistan Joint Operations Area (JOA) is rugged mountainous terrain and another half is desert. Due to extremely restrictive terrain throughout each of the Aviation Battalion Task Force AORs, the Landing Plan, of the 5-step air assault planning sequence, drives the development of the ground tactical plan and ground commander's scheme of maneuver. This is a significant paradigm shift from the doctrinal method of the ground tactical plan drives all other elements of air assault planning and execution and must be synchronized with the supported ground unit. Enemy forces use the extreme terrain for cover and concealment as well as to limit coalition forces direct access to their respective areas of operation. The terrain limits the number of suitable HLZs near many of the ground commander's potential objectives considerably impacting the ground tactical plan. Resultantly, the Landing Plan becomes the principle factor in the planning and execution of air assault operations. The Landing Plan includes the selection of the HLZs, landing formations, the amount of combat power entering the HLZs, and the timing and sequencing of aircraft into the HLZs. These elements of the Landing Plan become limiting factors for the ground tactical plan. The ground commander must rely on the Aviation Battalion Task Force to develop the landing plan and adjust his plan for the location, capacity, orientation, enemy disposition, and capabilities within range of the HLZ and the availability of supporting aerial fires.

Insights/Lessons

Doctrine considers the ground tactical plan as the most critical element of an air assault operation; however, restrictive terrain and environmental conditions make HLZ selection and development the most critical element of air assault operations.

HLZ approval is two levels removed from the commanders best postured to determine the suitability of HLZs through organic reconnaissance and intelligence to drive the supported commander's ground tactical plan.

Enemy forces also survey and even target potential HLZs within their respective AORs. The enemy employs effective early warning systems that undermine repeated use of "approved" HLZs and potentially pose a significant threat to assault forces.

Current HLZ approval process is too cumbersome and limits the Aviation Battalion Task Force commander or assault force's ability to exploit dynamic opportunities or fleeing targets unique to counterinsurgency operations.

HLZ reconnaissance with assets organic to the Aviation Battalion Task Force (Observation Helicopter (OH) or Attack Helicopter (AH) aircraft) within the standardized planning timeline may disclose potential landing plans and ground tactical plans to enemy forces

HLZ selection and development is the critical capability for dominant maneuver throughout each AOR. The Aviation Battalion Task Force requires sufficient HLZ expertise (i.e. Assault / Cargo officers) and resources (i.e. detailed imagery) in each Tactical Operations Center (TOC).

As a critical capability to both the ground commander and the Aviation Battalion Task Force commander, the HLZ selection and development process must be fully resourced. High-resolution imagery is a critical requirement for all air assault / deliberate operations. National assets must be exploited for the timely receipt and distribution of high-resolution imagery and HLZ selection should be integrated into the Combat Aviation Brigade (CAB), Combined Joint Task Force (CJTF), supported Brigade Combat Team (BCT), and Aviation Battalion Task Force Priority Intelligence Requirements (PIR) for Intelligence, Surveillance, and Reconnaissance (ISR) assets.

Topic 1.4: Adoption of innovative non-standard air-ground integration techniques

Discussion

Multi-functional Aviation Task Forces (MATF) use joint assets and adopt non-standard air-ground integration techniques to conduct air assault operations in the harsh terrain, low illumination, against a low-contrast enemy. Air Assault Task Forces (AATF) in each MATF adopted non-standard techniques and used joint assets to mitigate the effects of terrain and extend the tactical reach of the supported maneuver commander. Joint assets allocated to the AATFs to conduct deliberate operations provided unique capabilities to include long-duration Infrared (IR) illumination munitions, IR illumination of targets and Helicopter Landing Zones (HLZ), and HLZ status (CHERRY/ICE calls) without revealing the HLZs or Objective. AATFs conduct most illumination tasks as pre-planned fires on the Objective. On deliberate operations, joint assets execute illumination tasks on queue through Execution Checklist matrix (ExCheck) codes relayed through the FAC in the supported ground element. Additionally, Unmanned Aerial Systems (UAS) assets, in over-watch, conduct illumination tasks through the ExCheck codes relayed to the respective TOC via SATCOM and further pushed to the supporting UAS operator through Military Internet Relay Chat (mIRC) message. Close Air Support (CAS) aircraft can also make the CHERRY/ICE call on ExCheck queue at an altitude or distance to not reveal or “burn” the HLZs. United States Air Force (USAF) A-10s can provide long duration IR illumination munitions if the terrain or illumination cycle favor area illumination either enroute or in the Objective area. AATFs also conduct HLZ reconnaissance with utility and cargo helicopters and high-resolution digital cameras at higher altitudes with care not to “burn” potential HLZs or Objectives. The digital HLZ photographs supplement overhead imagery in the HLZ selection, development, and approval process of the air assault landing plan.

Insights/Lessons

UH-60L and CH-47D aircraft conducted successful HLZ reconnaissance in terrain above 8000ft using High-resolution digital photography.

Task Forces effectively use Air Force attack aircraft infrared / electro-optical IR/EO systems to make CHERRY/ICE calls on HLZs or have the aircraft illuminate/SPARKLE the HLZ or targets in support of air assaults.

AATFs use UAS IR/EO systems to illuminate/SPARKLE preplanned HLZs or targets through the execution checks matrix calls on SATCOM and the TOCs MiRC messages to the UAS operators.

AH-64Ds with MTADS in the AATFs called CHERRY/ICE at distances >8000m in order to not “burn” the HLZs.

Air Force attack aircraft (A-10s) and Army Attack aircraft used IR illumination munitions to illuminate HLZs and objectives during low illumination conditions.

AATFs use non-standard Signal Intelligence (SIGINT) systems (scanners) with interpreters for situational awareness on air assault operations.

The Aviation Battalion Task Force Commanders did not limit Fuel and Rearming Point (FARP) operations to CAB FARPs. FARPs run by ground units effectively supported aviation operations once trained on testing, fuel maintenance, and aircraft refueling procedures.

Overhead joint assets enhanced situational awareness during air assault operations in complex terrain and low illumination.

Using aviation trained ground refuel capabilities with the MATF’s AOR significantly increases air assault and air movement operations sustainment flexibility

Non-standard SIGINT TTPs enhance the Air Assault Task Force Commander and Air Mission Commander’s situational awareness and understanding while conducting air assault operations.

Topic 1.5: Integration of Pathfinders as Personnel Recovery (PR) and Downed Aircraft Recovery Team (DART) elements

Discussion

The Combat Aviation Brigade (CAB) effectively task organized the assigned Pathfinder Company with elements in each Multi-functional Aviation Task Force (MATF) to conduct HLZ Operations, Personnel Recovery (PR), and Downed Aircraft Recovery Team (DART) operations and other quick reaction force (QRF) requirements in each AOR. The CAB’s Pathfinders are invaluable in the execution of the Aviation Battalion Task Force missions. The Pathfinder Company was not included in the task organization of the MATF nor fully integrated into the MATF pre-deployment training. The Pathfinders completed pre-deployment training as a company on essential PR tasks to include high-altitude operations, cordon and search tactics, and extremis aircraft extraction. The Pathfinder Company broadened their core external load tasks to include downed aircraft rigging and sling-load operations with aviation maintenance personnel responsible for DART operations. Upon deployment and Reception, Staging, Onward movement, & Integration (RSOI) the Pathfinder Company task

organized with a platoon (-) minus element in each Task Force. They did not conduct a respective Relief in Place (RIP)/Transition of Authority (TOA) with the previous CAB Pathfinders. The Pathfinders enabled each Task Force with an immediate and deliberate PR capability, a robust DART capability in addition to the core pathfinder tasks of HLZ operations. The Pathfinders effectively executed variations of each mission set in combat to include the rigging and airlifting of downed CH-47D and UH-60L aircraft from enemy territory.

Insights/Lessons

The Pathfinders completed qualification and training, to include fast-rope insertion and extraction, personnel recovery, and downed aircraft rigging, as a company and task organized after deployment and RSOL.

Pathfinder elements are the principle security and recovery elements for PR missions and fully integrated to each Task Force's Quick Reaction Forces (QRF).

The Pathfinder robust extraction equipment sets are better suited for both personnel extraction and extremis aircraft recovery than the Aviation Unit Maintenance (AVUM) Battle Damage and Repair (BDAR) kits.

Pathfinder elements effectively executed the security tasks, sling rigging, and recovery tasks for all of the CABs downed aircraft recovery (DART) missions

Pathfinders executed doctrinal HLZ operations, to include HLZ establishment, clearing, improvement, and repair, on Forward Operating Bases (FOBs), Forward Arming and Refueling Points (FARPs), and in potential assault locations.

Fully integrate Pathfinder tasks and training into Aviation Battalion Task Force pre-deployment task organization and training.

DOTMLPF Implications:

Organization: Potential organizational changes to remove the organic Pathfinders from the CAB (M) (Air Assault and Airborne) place the Personnel Recovery (PR) and downed aircraft recovery capabilities at risk. The CAB will no longer have a dedicated ground combat organization to perform this mission. The detriment to Personnel Recovery capabilities in the Afghanistan AOR could have significant operational implications.

Chapter 2
Attack and Reconnaissance Helicopter Operations

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Summary

Units deploying to Afghanistan must prepare properly for the peculiarities of Aviation Operations in that theater. Pilots operating in support of Operation Enduring Freedom (OEF) must prepare for the environmental demands of flight in the most difficult terrain in which U.S. Army aviators have ever operated. Attack and Recon aviators must train at home station for fighting as part of a combined arms team in the mountains, considering the effects of steep, canalizing terrain on maneuvering, weapon employment, and the idiosyncrasies of supporting ground maneuver units who cannot always see the enemy that they are fighting. Finally, unit commanders must train their aviators to fight as a part of a Combined, Joint Aviation team. Attack and Recon pilots must understand what other platforms are present on the battlefield, what capabilities those platforms bring to the fight, and what tools are required to leverage those capabilities. OEF Aviation Operations are vastly dissimilar to those in Operation Iraqi Freedom. Commanders must understand those differences and prepare their units for them in order to achieve success.

The Combat Aviation Brigade's (CAB) Attack Reconnaissance Battalion (AH-64D) conducted institutional training at High-Altitude Army Aviation Training Site (HAATS) followed by Situational Training Exercises (STX) at Ft. Carson, CO following HAATS in order to reinforce lessons learned in institutional training and to prepare for operations in Afghanistan. All pilots, from junior warrant officers to Battalion Commanders, agreed that HAATS and STXs at Ft. Carson were unequivocally the two events that best prepared them for OEF because they were relevant and realistic. Commanders who will deploy their units to Afghanistan should follow and expand on this model, conducting as much training as possible at high altitudes. Training at home station must mirror conditions in combat as much as resources will allow.

Aviators executed the majority of Attack and Recon operations in Operation Enduring Freedom in Direct Support (DS) to ground maneuver. Unit commanders remarked that the conduct of face-to-face capabilities briefings and follow-on live fire training with Attack Helicopter (AH) and Observation Helicopter (OH) aircraft directly influenced the effectiveness of the air-ground team on the battlefield. The commanders went further in stating that there is a marked difference in working with units that have an accurate understanding of how aircraft fight and the effects that aircraft can bring to bear on the enemy, than with those units that are not receptive to training with Aviation. Aviation units should conduct face-to-face Air-Ground Integration classroom and field training at the company level in order build competency in the individual ground Soldier for employing armed helicopters.

In preparation for gunnery operations in OEF, Attack Reconnaissance Battalion (ARB) Commanders tailored pre-deployment and in-theater continuation gunnery training for the types of engagements that their units executed, to include team gunnery with mixed Mission Type Design Series (MTDS) aircraft teams. ARB Commanders made use of the provisions in FM 3.04-140 to shape gunnery training in order to best prepare their units for the conditions in which they fought. Follow on units should expand their gunnery programs to include mixed MTDS team training as well, and they should strive to include ground-based direct and indirect fire platforms into gunnery because, again, Aviation will always fight as a part of some kind of team. Pre-deployment preparation should integrate as many parts of the Combined, Joint team as possible into the training of the Aviation Warfighter.

Unmanned Aerial Systems (UAS) continued to evolve as a significant part of the Combined Arms team, and although there are a limited number of UAS on the battlefield, units must be prepared to conduct operations with these systems when they are available. It is important that aircrews have a full understanding in regards to UAS capabilities to execute functions that enhance the effectiveness of Attack and Reconnaissance Helicopters. Likewise, crews must understand the technology required to communicate with these systems, specifically Satellite Communication (SATCOM) and Military Internet Relay Chat (MIRC). Integration of Unmanned Systems into the ARB's fight dramatically shortens and enhances the sensor to shooter chain, and to find, fix, and destroy the enemy in ways not previously possible.

Army Aviation Commanders in OEF leveraged a wide array of Joint Aviation capabilities in their fight. Attack and Reconnaissance aircraft success in Joint Aviation Operations with USAF and coalition aircraft required active measures to gain situational awareness on the part of the Army Aviation Commander, integration of new technologies on Recon and Attack aircraft, and coordination with Joint Tactical Air Controllers embedded in ground maneuver elements. It is

imperative that aircrews know what tools are available to them and the mechanisms for accessing the resources that other aircraft bring to the fight. Finally, commanders were restricted in their use of the OH-58D in Afghanistan, specifically at Pressure Altitudes greater than 6000 feet. Commanders must accept this restriction and incorporate it into their planning, or they must seek amendment to this restriction.

Taken as a whole, the theme of this chapter is “train as you fight.” Aviation Commanders that have not yet conducted operations in Afghanistan may be unaware of the differences between OEF and OIF. The assumption that operations in Afghanistan and Iraq are all the same is incorrect. Units deploying to OEF must be aware of the unique challenges and opportunities associated with that theater and prepare accordingly.

Topic 2.1 Pre-Deployment Environmental Training

Discussion

Pre-deployment training for High / Hot / Heavy conditions is the single most important training event for Attack and Reconnaissance Aviation Officers deploying to Afghanistan. Aviation Officers, primarily Pilots in Command (PC) and Instructor Pilots, from the Combat Aviation Brigade's (CAB) Attack Reconnaissance Battalion (AH-64D) conducted training at High-Altitude Army Aviation Training Site (HAATS) and at Ft. Carson prior to deployment in order to prepare for the power management requirements in the high elevation of Afghanistan. Due to the relatively late addition of the OH-58D ARB to the CAB's organization for Operation Enduring Freedom (OEF), the Brigade did not have time to resource HAATS training for the OH-58D aviators. Both Attack Reconnaissance Battalions from the CAB conducted Situational Training Exercises (STX) at Ft. Carson, CO for two weeks following HAATS training in order to prepare for High, Hot, Heavy operations. This reinforced lessons learned in institutional training. All pilots, from junior warrant officers to Battalion Commanders, agreed that HAATS and STXs at Ft. Carson were unequivocally the two events that best prepared them for OEF because they were relevant and realistic.

Regarding HAATS, aviators collectively remarked that this school prepared them well for the environmental demands, specifically in power management, of combat operations in OEF. All agreed that every pilot deploying to Afghanistan should attend this training. Since Afghanistan will likely remain an active theater of operations for U.S. Army Aviation, the Active Army should either take over the mission to conduct HAATS training or establish a new facility for training all Mission, Type, Design, and Series. AH-64D pilots noted that they were unable to conduct HAATS training in their airframe due to the absence of an AH-64D Standardization Pilot (SP) at the school. Since the Colorado National Guard

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operates HAATS, there is no authorization for an AH-64D SP. Consequently, Longbow pilots must conduct their training in the OH-58A/C. Attack aviators stated that the training was still extremely valuable, and they could transfer the skills to their airframe; however, performance planning tools and environmental information available in the AH-64D would significantly improve the training experience. If the Active Component is unable or unwilling to take over the mission at HAATS, the school should seek a change to its Table of Distribution and Allowances (TDA) for two AH-64A and D rated Standardization Pilots, resourced by the Active Component, to facilitate training for Attack Aviation officers. One Attack Recon Battalion (AH-64D) resourced their HAATS training with two AH-64D SPs from the Arizona National Guard, an organization that has Longbow; however, this is not a durable solution, due to the fact that the Arizona National Guard will inevitably deploy in support of the Global War on Terror (GWOT).

Several senior aviation officers recommended that in addition to aviation-specific environmental training at HAATS the Army establish a Mountain Warfare Center similar to the Marine Corps Mountain Warfare Training Center (WMTC) in Bridgeport, California. A facility of this type would provide opportunities for institutional collective training of aviators and ground maneuver units. Home station training and qualification on flat, wide-open aerial gunnery ranges do not adequately prepare Attack and Recon aviators for the unique challenges that high, steep, and canalizing terrain presents for target location, weapon selection, and weapon effects. Aviators working in mountainous terrain developed techniques for weapons employment that they had not previously trained. One commander accurately stated, "If the training saves one aircraft and crew that would have crashed because they didn't understand how to fight in the mountains, then the school pays for itself."

A Mountain Gunnery Center would also allow for invaluable Air-Ground Integration (AGI) training designed to educate both aviators and ground maneuver leaders in leveraging the effects provided by AH and OH platforms into the combined arms fight in mountainous terrain. This type of facility could allow units to conduct this type of training prior to deployment, enhancing the performance of aviation units and air-ground teams in mountainous terrain.¹ Ft. Irwin, CA is ideal for this type of school, and the establishment of an institutional training facility there would facilitate the deliberate conduct of the training as opposed to a tack-on to rotations through the National Training Center. Ft. Irwin has the terrain, conditions, and most importantly the range space available to make this training possible.

¹ Units from the CAB attempted to use the Marine Corps' facility, but USMC training events on the facility and Summer time forest fires in California precluded training there.

Combat operations at high altitudes in a mountainous environment require highly refined skills in power management, aerial gunnery, and air-ground integration. Commanders have many opportunities for training their units to perform these tasks both at home station and in combat theaters, and innovative leaders will recognize and capitalize on them in order to better prepare their units to find and destroy the enemy. The Army should develop institutional resources to facilitate training for mountain operations and properly resource the institutions that already exist.



Figure 1. Mountainous terrain located between Bagram Airfield and FOB Salerno in Afghanistan. (photo taken at 11,500 MSL)

Insights/Lessons

High altitude flight training is the single most important pre-deployment training for Aviation units deploying to Afghanistan.

Unit commanders should make maximum use of facilities that allow them to train their units in conditions that mirror that of their Area of Operations in combat.

DOTLMPF Implications

Organization:

Modify HAATS TDA for two AH-64 Standardization Pilots, so that AH-64D aviators may conduct training in their aircraft.

Facilities:

Develop Mountain Gunnery Center in order to prepare AH and OH Aviators for the effects of steep, canalizing terrain on weapon system selection and employment.

Topic 2.2: Small Unit Air-Ground Integration Training

Discussion

Aviation and Ground Maneuver Commanders should conduct Air-Ground Integration (AGI) at the company level in order to facilitate effective combined-arms operations at the level at which the Army fights in the Global War on Terror. Attack and Reconnaissance unit commanders remarked that the conduct of face-to-face capabilities briefings and follow-on live fire training with Attack Helicopter (AH) and Observation Helicopter (OH) aircraft directly influenced the effectiveness of the air-ground team on the battlefield. Aviation unit commanders in Operation Enduring Freedom (OEF) flew their aircraft to the Forward Operating Bases (FOBs) that their supported Infantry units occupied in order to conduct this training. Ground Soldiers sat in Longbow and Kiowa Warrior seats, on the ground, and aviators demonstrated the capabilities and limitations of the sight systems of their aircraft. One commander stated that when "that sergeant sat in the front seat and saw that we don't actually have the God's-eye view of the world like he sees on television, the light bulb turned on, and he instantly understood how he should integrate my aircraft into his fight."

The commanders went further in stating that there is a marked difference in working with units that have an accurate understanding of how aircraft fight and the effects that aircraft can bring to bear on the enemy, than with those units that are not receptive to training with Aviation. The recommendation from the OH and AH Commanders was that each incoming Infantry Commander, First Sergeant, Platoon Leader, and Platoon Sergeant must conduct a day of training with the OH and AH units that conduct operations in their AO as a part of their Relief-in-Place.

Integrated air-ground live fire training proved crucial to the air-ground team's capability to mass fires on the enemy. Because the enemy in Afghanistan is skilled in camouflage and can conceal himself from optical, and to a limited degree from thermal systems, it is imperative for aviators to train with ground maneuver as well as other aviators to develop Tactics, Techniques, and

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Procedures (TTPs) for marking target locations for each other. Soldiers on the ground must train to talk aircraft onto targets in the absence of suitable marking techniques.

One commander stated that, “every test fire is a training opportunity.” Prior to convoy escort missions, aviation teams accompanied the vehicles through a designated test fire area and they and convoy commanders developed impromptu situations for ground-to-air target handoffs. The ground Soldier called out a distance and direction for a target and suppressed that target with organic weapon systems. The AH or OH found the target and engaged to destroy the “threat.” Soldiers on the ground were able to practice marking targets with small arms fire and talking aircraft onto threats, so that when the enemy actually engaged the convoy, Soldiers were familiar with procedures and confident in their ability to leverage the firepower of escort aircraft onto the enemy.

Commanders and Standardization Officers from each Task Force in the CAB expressed that follow-on units should strive to conduct concurrent home-station gunnery training with ground maneuver units in order to extend habitual relationships with the units with which aircrews fight. Aviators at all levels within the TFs focused on the need for integration of indirect fire systems into units’ aerial gunnery training plan in order to train aviators in live call-for-fire training. This is particularly applicable to units who will fly in Direct Support (DS) to Brigade Combat Teams (BCT). Aviator participation in Combined Arms Live Fire Exercises (CALFEX) will enable Soldiers both in the air and on the ground to build proficiency in working with inorganic systems, as well as an appreciation for the capabilities of those systems. The salient point is that Army aircraft will always fight as a part of a team, and gunnery training, both at home station and in-theater must provide opportunity for aircrews to train as they fight. In order to best support ground maneuver, leaders at all levels, both in the air and on the ground, must work together to build a combined arms team capable of leveraging all combat power available in any environment.

Insights/Lessons

Company-level air-ground integration training in mountainous terrain both at home station and in theater results in drastically improved performance and lethality of the air-ground team.

Leaders must be innovative, creative, and ready to seize opportunities to train their units in aerial gunnery operations.

Conduct face-to-face Air-Ground Integration classroom and field training at the company level in order build competency in the individual ground Soldier for employing armed helicopters and for Attack and Recon Aviators to understand the needs of the ground maneuver commander.

Topic 2.3: Home Station and Continuation Aerial Gunnery Operations

Discussion

Combat Aviation Brigade (CAB) Commanders tailored pre-deployment and in-theater continuation gunnery training for the types of engagements that their units executed in OEF, to include team gunnery with mixed Mission Type Design Series aircraft teams. Units should prepare for Helicopter Gunnery in Afghanistan in the most realistic fashion possible, to include resourcing home-station gunnery training with the munitions that their crews will fire in combat operations. In preparation for combat as in high altitudes, commanders from the Combat Aviation Brigade (CAB) adjusted pre-deployment gunnery training and follow on Table VII and VIII qualification for all aircraft in order to prepare for their mission, environment, and target sets in OEF. The Division resourced the CAB with two years' worth of training ammunition, effectively allowing the Aviation Brigade twice the opportunity to train for aerial gunnery before the deployment. The unit continued gunnery training throughout the deployment, exploiting the availability of multiple types of ammunition into its plan, and integrated mixed-aircraft teams into scenario-based engagements in order to sustain proficiency in the types of engagements that they conducted in actual operations. Commanders, Master Gunners, and Standardization Officers agree that unit's pre-deployment gunnery plan was very good for preparation; however, all agree that there are areas in which units can build.

Commanders trained and qualified their aircrews in gunnery tables that more closely reflected engagements that the crews would actually perform in OEF than those found in the tables prescribed by FM 3-04.140. Paragraph 1-10 of the Helicopter Gunnery manual states that, "commanders may modify the engagement sequences, conditions, and target arrays within the tables to meet mission training requirements or to fit resource constraints such as range layout, ammunition availability, or similar restrictions to training." Attack and Recon units from the CAB omitted all hovering engagements from their tables, replacing them with running and diving fire engagements. Aviation units deploying to the Counter Insurgency (COIN) fight, particularly to Afghanistan, should emulate this training model because the high altitudes and temperatures prohibit hovering engagements, especially in the Summer months. Units should stress running fire engagements with all weapons because power margins and terrain seldom allow dive angles greater than five to ten degrees.

In weapon engagements, commanders and their Standardization Pilots should plan for the effects of high temp and PA on dynamic harmonization of the AH-64D's 30mm cannon. TC1-251, the AH-64D Aircrew Training Manual, and TC1-1520-251-10, the Longbow Operator's Manual, make no provision for dynamic

harmonization while moving. This has a direct and dramatic impact on Longbow gunnery operations in Afghanistan.

Task Force (TF) Commanders followed the guidance provided in TC 1-210, paragraph 4-39 which states that live fire gunnery training should be conducted as often as aircraft, ammunition and range resources will allow. Throughout the course of the deployment, TF Commanders, Master Gunners, and Standardization Officers developed and executed scenario-based gunnery training. TF Commanders were very creative in the development and utilization of mixed Mission Type Design Series (MTDS) teams to equip Air Mission Commanders with the resources that they require for mission accomplishment. Then they tailored their gunnery training continuation plan to develop aviator proficiency in fighting as a mixed MTDS team. TF Commanders regularly paired OH-58D and AH-64D with MEDEVAC as well as standard UH-60, and their Master Gunners developed scenario-based gunnery training to facilitate these pairings. UH-60 crews became very proficient in target handoffs to Attack and Recon aircraft; likewise, Attack Helicopter (AH) and Observation Helicopter (OH) aircrews grew in their ability to find and destroy targets called out by Blackhawk crews and marked by small arms fire. Commanders at home-station should incorporate mixed-MTDS classroom and live-fire gunnery training into their pre-deployment planning because crews operating in aviation battalion task forces will fight in this fashion. This situation-based training serves several purposes. First, the AH or OH crew in the trail aircraft gets realistic gunnery training on every flight. Second, the lead ship, regardless of MTDS trains for realistic target handovers, suppression, and evasive maneuvers.

In addition to non-standard teaming, Aviators fight with weapons in combat with which they do not typically train at home station. OH and AH aircrews routinely fire flechette, illumination, and red phosphorous rounds in combat, but these rounds are not normally available for training prior to deployment. These rocket warheads are neither toxic, nor are they dud producing², and commanders should resource their crews with the tools that they need to properly prepare for operations in combat.

Insights/Lessons

Commanders should make use of the provisions in FM 3.04-140 to shape gunnery training in order to best prepare their units for the conditions in which they will fight.

Plan to use training ammunition for the year spent deployed in preparation for that year.

² Per FM 3.04-140, Helicopter Gunnery

Army aircraft will always fight as a part of a team, therefore home station and in-theater gunnery training must provide opportunity for aircrews to train as they fight.

Units should resource realistic home-station training with the munitions that aircrews will use for operations in combat.

DOTLMPF Implications

Material: Develop procedure for dynamic harmonization of the M230 cannon on a moving AH-64D.

Topic 2.4: Unmanned Aerial System Integration in Attack and Recon Operations

Discussion

Attack and Reconnaissance aircrews were successful in operations with Unmanned Aerial Systems (UAS) but the number of unmanned vehicles available limited this success. Integration of Satellite Communications (SATCOM) and Military Internet Relay Chat (MIRC) enabled Recon and Attack aircraft best to communicate with UAS controllers for coordinated effects. The use of Unmanned Aerial Systems (UAS) has been a success in Operation Enduring Freedom (OEF), providing persistent long range Reconnaissance, Surveillance, Target Acquisition (RSTA) and Intelligence Surveillance, and Reconnaissance (ISR) to ground and aerial maneuver. Commanders at all levels understand and employ the full range of capabilities of UAS on a constant basis in Afghanistan, and the demand for these platforms exceeds the number available in theater. The requirement for these systems cannot be understated, and all maneuver elements must compete for their use. Attack and Reconnaissance commanders need more Unmanned Aerial Vehicles (UAV) for use in operations, and they need access to these platforms on a Direct Support (DS) basis.

The reason that Attack and Recon Air Mission Commanders (AMC) need this capability is that rotary wing presence interdicts enemy activity, which is in itself a desirable effect. Unmanned systems are uniquely suited to Positive Identify (PID) enemy, primarily because of enemy's inability to detect their presence. Observation Helicopter (OH) and Attack Helicopter (AH) platforms receiving cueing from an unmanned platform can then act with the requisite speed to deliver effective fires on the enemy, which has a far greater effect on subsequent enemy activity than interdiction through presence alone. If the Aviation Task Force Commanders have the required UAS support then they and their S2s are able to find and fix the enemy, and Attack and Recon Aviation can destroy the

enemy more efficiently than ground commander in Afghanistan due to the air-centric nature of the economy of force operation.

It is important that aircrews have a full understanding in regards to capabilities UAS to execute functions that enhance the effectiveness of Attack and Reconnaissance Helicopters. For example, persistent Army Reconnaissance, Surveillance, and Target Acquisition (RSTA) can maintain contact with the reconnaissance objective or target for far longer than Army Rotary-wing platforms, allowing helicopters to break station and still maintain “eyes on” the target. Additionally, unmanned aircraft equipped with laser pointers and designators are capable of conducting many valuable tasks for the AH-64D and OH-58D pilots. The innovative commander can use these and other valuable functions to augment his team’s combat power.

The limiting factor in UAS integration is communication between the sensor and the shooter. Aviators using the standard suite of radios in AH-64D or OH-58D are not able to communicate directly with controllers that are not organic to the Brigade Combat Team (BCT). High Frequency (HF) radio is not effective for voice communications³ in the mountainous terrain, but the solution to this limitation is SATCOM. Units, equipped and trained in the radio’s use, stated that use of Satellite Communications is the definitive answer to Non-Line of Sight (NLOS) communications. AH and OH crews speak to CAB and Division headquarters staff members, who in turn communicate by mlRC to the UAS controllers for coordination of capabilities.

There is, however, a clear need for more SATCOM channels. One commander stated that in nearly every deliberate operation, aviators that share the CAB’s single SATCOM channel interrupt communications by performing communications checks or Preventive Maintenance Checks & Services (PMCS) on their radios that “step on” the deliberate operation. The minimum requirement for the CAB should be five SATCOM channels, allowing each Task Force to have unimpeded NLOS communications.

Aviation Commanders in OEF can leverage a wide range of capabilities to enable their crews to find and destroy the enemy. It is imperative that aircrews know what tools are available to them and the mechanisms for accessing the resources that unmanned aircraft bring to the fight.

Insights/Lessons

SATCOM is the best solution available for NLOS communication.

Aviation Commanders need more Direct Support UASs.

³ HF Free text is reliable, but voice does not work well in the mountains.

Commanders must develop programs that allow aircrews to work with organic UAS at home station in order to integrate these platforms into the Aviation fight.

Topic 2.5: Joint Aviation Integration in Attack and Recon Operations

Discussion

Attack and Reconnaissance aircraft success in Joint Aviation Operations with USAF and coalition aircraft required active measures to gain situational awareness on the part of the Army Aviation Commander, integration of new technologies on Recon and Attack aircraft, and coordination with Joint Tactical Air Controllers (JTAC) embedded in ground maneuver elements. Army Attack and Recon pilots deploying to OEF should receive Forward Air Controller training in the Joint Aviation-centric Theater. Joint Aviation Operations in Operation Enduring Freedom (OEF) enabled Attack and Reconnaissance Aviation to locate enemy forces and to coordinate and deliver devastating synchronized firepower to destroy them. Vigilance on the part of the Aviation commander, an understanding of the capabilities of Joint aircraft, leveraging of technology, and use of the JTAC were the factors that most enabled success in Joint and Combined Air Operations. Successful integration of all assets in the Area of Operations was directly dependent on the Aviation commander's ability to determine the manned and unmanned assets present in his Area of Operations (AO) as well as the capabilities of those aircraft. JTACs facilitated interoperability through direct communication with all aviation platforms involved in operations and through constant contact with the ground commander. In instances when a JTAC was unavailable, USAF pilots provided limited Type 1 and Type 2 Close Air Support (CAS) directed by Army helicopter pilots.

Company Commanders and Tactical Operations (TACOPS) Officers' daily reading of the Air Tasking Order (ATO) was essential to success in leveraging the Joint assets in the battle space. From this document, officers at the company level conducted their missions with a complete understanding of exactly what assets were on station during the mission. Attack and Recon Company Commanders in any combat theater should integrate detailed reading of the ATO into their mission planning for all operations. Further, TACOPS Officers at the Brigade and Battalion Levels should develop information books on Joint aircraft capabilities, so that Air Mission Commanders (AMC) can launch with a complete awareness of what combat power is available and what capabilities are accessible to help them complete their tasks.

It is important that aircrews have a full understanding in regards to capabilities of other aircraft to execute functions that enhance the effectiveness of Attack and Reconnaissance Helicopters. Persistent Intelligence, Surveillance, and Reconnaissance (ISR) platforms can maintain contact with the reconnaissance

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objective or target for far longer than Army Rotary-wing platforms, allowing helicopters to break station and still maintain “eyes on” the target. Likewise, the USAF regularly flies aircraft at high altitude that facilitates communications over long distances and between aircraft flying close to one another. The innovative commander can use these and other valuable functions to augment his team’s combat power.

Joint Tactical Air Controllers (JTAC) were essential to the success of the Joint Aviation team in their coordination of effects from all aviation platforms for the ground commander. Attack and Recon company commanders said that when collocated with the ground maneuver commander on the battlefield, the JTAC was efficient and effective in coordinating for effects with aviators and organic UAS controllers. One Troop Commander stated that in the defense of a coalition convoy, his team was part of an aircraft “stack” that extended from 500 to 35,000 feet. The Controller synchronized OH-58, Army UAS, A-10, and AWACS to ensure the destruction of the enemy force. It is imperative that commanders train their units to work with the USAF JTACs at home station, because in combat the JTAC provides invaluable coordination between ground maneuver and Joint aviation.

When the JTAC performed his duties from the Brigade Tactical Operations Center (TOC), he was less able to perform his functions – particularly in clearance of fires and coordination of effects. One commander said that his OH-58 was well inside the danger-close range for a 2000-lb bomb that a USAF platform dropped at the direction of a JTAC in the TOC. This was due chiefly to the fact that Army and Air Force aviation units in that particular operation communicated on different frequencies, and the Army aircrew was not included in the clearance of fires drill. Another crew noted that JTACs who operated out of the TOC often unnecessarily coordinate massive amounts of ordinance on a single point target, wasting assets. Although not always possible in an economy of force mission JTACs should be in the fight, on the battlefield, and not in the TOC. This will help in maximizing effectiveness and safety of Joint Aviation.

In instances when the JTAC was unavailable, Army aircrews succeeded in directing Type 1 and Type 2 Close Air Support (CAS) onto their targets. In time, the USAF limited this type of support to units that did not have certified Forward Air Controllers (FAC) for risk mitigation purposes. Due to certification requirements, Army aircrews were not qualified for this type of operation. Task 2164 from TC 1-248, the OH-58D Aircrew Training Manual (ATM), as well as Task 2164 in TC 1-251, the AH-64D Aircrew Training Manual is “*Call for a Tactical Airstrike*”, so each Kiowa Warrior and Apache Longbow pilot is required to understand how to employ CAS before he can perform Aviation duties outside a training environment. The suite of sights and sensors on AH-64D and OH-58D enable crews to direct fire very effectively, and Army Aviation Commanders should work with the USAF to enable AH and OH crewmembers to call for Air

Force CAS without FAC certification. If the Air Force is not willing to recognize Army training as sufficient then commanders should give their crews the training required to employ USAF Close Air Support. A solution for this problem is to create theater-specific FAC certification requirements for Attack and Recon Aviation officers in Afghanistan. Crews could easily meet their certification requirements while in OEF, and loss of certification upon leaving theater would have no effect.

Aircrews in OEF stated that a second limiting factor in direct coordination with USAF platforms is the use of secure UHF. The KY58, which provides for secure UHF, severely limits range and fidelity of communications. Aviation platforms have the option to switch to HAVEQUICK II (HQII) as a means of protecting frequencies in the UHF range. If the enemy is somehow able to intercept a HQII CAS call, it is unlikely that the enemy will have time to descramble, translate, and action their forces appropriately before "rounds complete."

Aviation Commanders in OEF can leverage a wide range of capabilities to enable destruction of the enemy. It is imperative that aircrews know what tools are available to them and the mechanisms for accessing the resources that other aircraft bring to the fight.

Insights/Lessons

Commanders must maintain situational awareness regarding what type of manned and unmanned platforms are available in their AO and the capabilities provided by those platforms in order to bring all available combat power to bear on the enemy.

Training with Joint Tactical Air Controllers for Recon and Attack aviators is imperative in order to leverage the combat power available in Joint aviation platforms.

Whenever possible, JTACs must be located on the battlefield.

Attack and Recon aviation officers in OEF should be FAC-qualified in order to leverage all available combat power and capabilities in the absence of a JTAC.

DOTLMPF Implications

Training: Create theater-specific Forward Air Controller training requirements for Attack and Recon aviators operating in support of OEF. FAC training in the US is impractical due to certification/currency requirements. These requirements are easy to maintain in OEF due to the great number of Joint aviation platforms operating in the AO.

Topic 2.6: OH-58D Altitude Restriction

Discussion

The Vice Chief of Staff of the Army (VCSA) mandated that Aviation Commanders may not employ the OH-58D above 6000' Pressure Altitude (PA). This restriction restricts the utilization of this airframe at different Above Ground Level (AGL) Altitudes in different circumstances. Commanders should understand this restriction and plan for it accordingly. While the OH-58D is restricted to Pressure Altitudes less than 6000' PA, the airframe is capable of safe flight at higher altitudes, demonstrated by operations at Ft. Carson and Hawaii. Commanders who typically use their Kiowa Warriors (KW) must either accept this restriction or seek clarification to this guidance.

This restriction is clearly a risk mitigation measure, but it keeps the OH-58D from operating at its fullest capability in taking the fight to the enemy. Aviation officers may seek several alternatives which would provide the appropriate risk mitigation while allowing crews to use their airframe to its fullest capability.

The first alternative, if the goal is to have one standard is to amend the restriction to 6000' Density Altitude (DA), which is Pressure Altitude adjusted for temperature. As temperature cools at a specific location, the DA decrements concurrently, and aircraft performance proportionally improves. The result of this change would be an increase in the altitude at which KW may fight as temperatures cool. Although temperature, PA, and DA will change throughout the course of each flight, crews can make this calculation based on max temperature and max PA as a part of their performance planning in order to determine a ceiling for each mission.

A second option for adjustment to this restriction is for the Commander and his Standardization Pilot (SP) to determine a max PA for each Pilot in Command (PC). Again, aviators at Ft. Carson and in Hawaii regularly operate their KWs at altitudes higher than 6000', so it follows that PCs understand their own capabilities and those of the aircraft.

Insights/Lessons

Aviation Commanders and Planners should understand the theater-specific operating restrictions for the OH-58D. Commanders must accept this restriction and incorporate it into their planning, or they must seek amendment to this restriction.

Chapter 3 Aeromedical Evacuation (MEDEVAC)

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Summary

The 2008 Afghanistan Theatre of Operations (ATO) did not have enough medical evacuation aircraft for current operations. This is a known operational concern with leadership for the on-going economy of force fight. Aeromedical evacuation (MEDEVAC) is the only viable means to transport patients in this air centric environment. As the theatre quickly matures, the requirement for additional MEDEVAC assets will generate a moral imperative. ISAF Surgeons should have a plan for utilizing USAF fixed-wing air evacuation platforms to assist in the intra-theater evacuation plan. Due to Afghanistan's absence of infrastructure, extremely complex terrain, and adaptable insurgents, this fight in Afghanistan will remain aviation centric. The next rotation of aviation and medical planners should consider the current observations, insights, and lessons in planning and execution of this challenging mission.

The reorganization of the Air Ambulance (AA) Company's Modified Table of Organization and Equipment (MTOE) has created many systemic shortcomings and command challenges. The aforementioned coupled with the limited number of level III medical treatment facilities, complex terrain, climate, unpredictable weather, dispersion of personnel and the size of the Area of Operation (AO) critically limits the capabilities and exhaust the flexibility in the medical evacuation system.

The CAB commander augmented the Air Ambulance Company with four additional crews – one per Forward Support MEDEVAC Team (FSMT), some specialty MOSs and special tools for each FSMT. Each Aviation Battalion Task Force (ABFT) took command and control of one Forward Support MEDEVAC Team (FSMT) with the area support mission to evacuate from point of injury (POI) 9-line missions, movement of class VIII/medical teams/lab samples, and the evacuation of military working dogs.

The CJTF set a “mission response time” goal of 120 minutes from MEDEVAC request to the arrival of the aircraft at a resuscitative care treatment facility. Using

this guidance, the MATF positioned MEDEVAC aircraft within the AO using overlapping concentric circles of coverage. The CJTF with limited MEDEVAC assets effectively integrated BCTs, medical, and aviation components to create an effective medical evacuation system. The CJTF is using MEDEVAC as an effective information operations tool in generating local national support. Great credit goes to the many Soldiers and aircrews involved in overcoming operational issues in making this unique and complex mission - a success.

Per the current AA Company MTOE, these teams had significant inherent personnel shortages and equipment shortages. The FSMT (3 aircraft and 3 crews) is not self-reliant. This condition created second and third order effects that stripped commanders of extremely valuable training time. The MATF's detailed pre-deployment training assisted in synchronizing the coordination of staff 9 -line MEDEVAC battle drills at each level of command. With FSMTs, the MATF developed tactics, techniques, and procedures for medical evacuation operations to include escort/chase procedures. These training experiences were the cornerstone to the effective MEDEVAC system. Once in Afghanistan, the ABFTs continued to streamline the medical evacuation process with the CAB.

The CAB had twelve organic MEDEVAC aircraft and sixteen crews; they received an additional FSMT from an ISAF long-standing request for forces. Nine MEDEVAC aircraft were employed within ISAF Regional Command (RC) – East. ISAF Regional Command – South had six MEDEVAC aircraft and three additional Air Force Combat Search and Rescue (CSAR) on-call. The CAB commanded and controlled over 2100 MEDEVAC missions primarily utilizing Military Internet Relay Chat (mIRC) and network teleconferencing communication. The average response time (notification of 9-line to wheels-up) in RC-East was 16 minutes and the average response in RC-South was 33 minutes. The CAB achieved 92% of missions completed within two hours.

MEDEVAC units scheduled for Afghanistan, while the “footprint” is still not mature, should anticipate challenges such as required augmentation for manning and equipment four self-reliant FSMTs. Executing a detailed pre-deployment training plan with theatre specific information that exercises MEDEVAC operations, the 9 - line battle drill, medical regulating issues and escort/chase aircraft is essential. All medical caregivers must become proficient with operational emergency medicine and focus on advance trauma live tissue training. Units should train on using flight surgeons for critical enroute care and prepare MEDEVAC crews accordingly.

Key Insights / Lessons

Recent Air Ambulance Company restructuring has created a unit that requires significant organizational augmentation to conduct continuous MEDEVAC

operations from four remote locations. These MTOE shortcomings have generated a new level of command intervention.

Prior to D + 180, develop detailed and comprehensive theatre specific pre-deployment training plans with flexible execution options.

Key DOTLMPF Implications

Organization: Conduct a Force Design Update to modify current MTOE. Develop an ad-hoc committee of Aviation and AMEDD personnel and generate a bottom-up review.

Topic 3.1: Air Ambulance Company Structure - MTOE

Discussion

The current Air Ambulance (AA) Company Modified Table of Organization and Equipment (MTOE) has severely limited the unit's organic ability to conduct doctrinal split based MEDEVAC operations. The "Transformation MTOE" of the AA company must be augmented to perform doctrinal mission. The AA company employs four Forward Support MEDEVAC Teams (FSMT), also called Flight Platoons to decentralized/remote sites to provide area support. AA Company cannot provide continuous MEDEVAC support at four decentralized locations with its organic assets, nor does the General Support Aviation Battalion (GSAB) have adequate assets to provide full doctrinal support at the four decentralized locations without significant degradation with its capability to conduct other battalion operations.

When all four FSMT /Flight Platoons are employed, the personnel and equipment shortages are overwhelmingly exposed. The significant personnel shortage coupled with the equipment/maintenance issues created monumental organizational challenges (personnel, administrative, equipment, medical, medical maintenance, logistical and training) for the AA Company Commander. The GSAB and the Combat Aviation Brigade Commanders and staffs were faced with the same challenges at a time when all commanders should be focused on Aviation Task Force pre-deployment crew and unit level training.

The AA Company currently is not resourced with the capability to operate 24/7 from four remote sites with 1st up and 2nd up MEDEVAC coverage. The AA Company MTOE does not provide replacements for FSMT crewmembers that become sick, take ordinary, emergency, rest and relaxation leave, or are administratively grounded. The FSMT is not operationally self-reliant. The FSMT should have four full RL-1 night vision goggle, mountain, and hoist-qualified crews. Within these four crews, self-reliance translates to an instructor pilot, a maintenance test pilot, a technical inspector, enlisted flight instructors, and

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standardization instructors. In addition, the FSMT needs three 15P with communications package (SATCOM/HF/AM) required to operate at remote sites for extended periods of time. The GSAB does not have enough maintenance test pilots, technical inspectors (15T30) to dedicate one per FSMT without reducing its ability to support the GSAB missions.

Four months prior to the deployment to Afghanistan, the AA Company had twelve MEDEVAC crews. The CAB commander committed manpower and additional maintenance/special tools upfront to ensure MEDEVAC had 16 complete crews, four crews per FSMT with special aviation tools/equipment. The Blackhawk pilots within the CAB were assessed by aircraft flight hours to include goggle hours, and then cross-leveled into the MEDEVAC FSMT/Flight Platoon to ensure experienced flight crews. The AA company had eleven flight medics on-hand, they were assigned an additional nine "ground medics" for a total of twenty. The nine new ground medics assigned over a four-month period had many issues to resolve prior to "pulling MEDEVAC duty"; medical re-certifications, meet requirements of flight physical, integration into the unit aircrew training program and successfully completing the readiness level(s) (RL) training. The MEDEVAC company commander and first sergeant were proactive in training flight medics and maintenance personnel re-assigned.

MEDEVAC MTOE specific issues:

Platoon Sergeant E-7/ 68WF40 - Currently the AA Company MTOE does not authorize Platoon Sergeants for the four FSMT/Flight Platoons. The AA Company was severely crippled by the absence of NCO leadership in these remote locations of the FSMT/Flight platoon. The second order and third order effects are demoralizing: the FSMT/Flt Platoon lacks efficient administration, a challenging realistic medical training plan, a disciplined unit cohesion, and has an acute absence of NCO expertise to quickly identify/anticipate shortcomings and generate alternative senior NCO solutions. Most noteworthy the FSMT lacks calming NCO leadership/mentorship that could lead the FSMT into a hardened, cohesive unit of Soldiers that possess tactical vision and synergy that can mentally, physically, and spiritually endure in any phase of full spectrum operations.

Flight Medics 68WF - Currently only 12 Flight Medics are authorized three per the four FSMT's. One flight medic (68WF 30) on each FSMT/platoon is dual-hatted, conducting administrative, aviation logistics and maintenance, medical logistics and maintenance, medical supply, training, equipment status and leadership responsibilities. Regulations authorize 1.5 medics per aircraft, currently the AA Company is assigned one per aircraft. This critical shortage prevented the AA company from doing its continuous 24/7 mission.

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Aviation Maintenance - The Air Ambulance MTOE currently does not authorize senior enlisted E-7/15T40. MEDEVAC operations require a senior 15T40 NCO for aircraft situation awareness at company HQ's, sequencing aircraft maintenance, managing ground maintenance equipment, status reporting and managing critical aircraft maintenance issues and liaison with other battalions. The absence of the 15T40 NCO maintenance expertise in AA company is apparent. In the absence of a senior maintenance NCO, 15T20/30 crew chiefs "pulling MEDEVAC duty" are responsible to quickly identify or anticipate maintenance related operational and administrative shortcomings. Most noteworthy, the previously noted lack of 68WF40 (FSMT/FLT Platoon Sergeant) in the FSMT/flight platoon coupled with the absence of 15T40 at company level creates overwhelming cumulative effects on MEDEVAC current and future operations. The current MTOE for FSMT/flight platoon lacks NCO maintenance leadership; the FSMT/Flight Platoon relies on one E-5/15T20 as the senior maintenance NCO who is also a dedicated MEDEVAC crewmember.

Administrative support - The Air Ambulance MTOE currently does not authorized administrative support, there are no dedicated personnel for company administrative functions. Typically, two of the limited 68WF20 medics share this as an extra duty.

Equipment Issues –

- Fifteen aircraft vs. twelve aircraft equates to daily operational nine aircraft vs. twelve, the number is simply inadequate.
- All AA units need to be fielded new MES 2006 kits.
- Upgrade AA Company medical equipment: propak monitors, IV pumps, Impact ventilators. This equipment is not state of the art, and sometimes very unreliable.
- The shortage of aviation maintenance equipment: critical/specialty tools are one deep,
- Each FSMT requires a communication package; add more FM communications, SATCOMS, HF, and AM.
- Units require versatile medical equipment with pediatric to geriatric capability.

Insights/Lessons

The CAB's aggressive approach to add needed MEDEVAC crews, additional flight medics, and cross-leveling pilots was a great risk mitigation tool.

The absence of E-7/68WF40 in each FSMT/Flight Platoon Sergeant in the AA company is fully apparent in all phases of the deployment which inhibits accomplishing the mission: unit leadership and training, teach-coach-train unit mentality, operational effectiveness, unit cohesion and morale.

Conduct MOS scrub to ensure units have all the required personnel AOC's, MOSs, skill levels and additional skill identifiers.

DOTMLPF Implications

Organization: Modify current MTOE, develop an ad-hoc committee of Aviation and AMEDD personnel, and generate a bottom-up review.

Topic 3.2: MEDEVAC Operations

Discussion

The CJTF set a mission-response-time goal of 120 minutes from MEDEVAC request to the arrival of the aircraft at a resuscitative care treatment facility. Using this guidance, the CAB positioned MEDEVAC aircraft throughout the AO using overlapping concentric circles of coverage. The coverage radius for each MEDEVAC aircraft was set at 74 nautical miles which incorporates planning assumptions that include; 110 KIAS, 20-minute run up, 15-minute patient pickup and 5-minute patient off-load. Each Multi-functional Aviation Task Force (MATF) TOC monitored the "response times" and kept statistical analysis of their missions. The MEDEVAC commander maintained a running detailed analysis of all MEDEVAC missions for the CAB.

The 12 aircraft MEDEVAC Company was not sufficient to support the CJTF units, ISAF forces, and local nationals. The CJTF successfully positioned the aircraft within the theatre to maximize the coverage area. The command found several ways to mitigate risks due to the limited MEDEVAC assets in country. Two different MATFs had to position forward "single aircraft" with escort/chase aircraft to perform MEDEVAC coverage to meet the planning guidance. The multiple locations covered by a single MEDEVAC aircraft left no flexibility when confronted with maintenance issues or response to multiple missions.

The CJTF used the additional capabilities of the USAF HH60's aircraft to mitigate aviation risk during the periods of low illumination. All HH60's have integrated Forward Looking Infrared Radar (FLIR) that enhances the night vision capability of the aircrew. With more integrated training with FSMT, the USAF HH60 aircraft could be leverage for increased MEDEVAC flexibility.

The FSMTs incorporated rotary-wing ambulance exchange points into their evacuation plans, called "tail-to-tail" which resulted in a faster return of forward-stationed aircraft to the forward operating base. However, this exchange can create a detrimental clinical situation. These tail-to-tail exchanges can have complex conditions; it is very difficult to transfer the patient from one aircraft/care crew to another. This is especially true at night, on uneven terrain, and in a

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hostile combat environment. Medical evacuation in essence is part of a hospital system. There is only one US level III medical treatment facilities in country which created a major operational challenge.

The CAB Commander attached an FSMT to each MATF commander within a regional command AOR. The FSMT had three aircraft and four MEDEVAC crews with a small flight operations slice. Each MATF commander positioned his MEDEVAC aircraft to influence success in meeting the 120-minute goal to reach a resuscitative care treatment facility. After a few months of Afghanistan operations, the command reviewed MEDEVAC mission statistics. The statistics depicted a trend in MEDEVAC missions. Not all MATF had the same MEDEVAC operations tempo. The allocation of MEDEVAC aircraft and crews were not based on MEDEVAC need. In one instance, the MEDEVAC operations tempo of an MATF nearly doubled that of another.

The CAB and each MATF tactical operations center (TOC) used Military Internet Relay Chat (mIRC) and network teleconferencing as the primary means to command and control all 9-line MEDEVAC missions. The information technology in all TOC enabled "simultaneous parallel coordination." Upon the requestor's entry of the 9-line on mIRC, virtually all required units had situational awareness of the "pending MEDEVAC."

However, not all MATFs developed a formal medical operations cell within their TOC, but they had a viable procedure to contact medical personnel immediately if needed to assist in coordination the MEDEVAC battle drill or execution of that specific MEDEVAC mission. The MATFs did not have a centralized integrated medical planner. The executive officer or operations officer performed that duty.

In reviewing the incoming 9-line MEDEVAC, first the medical operations cell conducted a mission analysis on mIRC with the unit requesting the 9-line MEDEVAC to determine/validate the evacuation classification of patient and to determine appropriate medical treatment facility within their battle space. This resulted in "mission approval" for POI/BAS to a level II medical treatment facility. The mission approval process can get complicated when the Medical Rules of Eligibility (MEDROE) determination identifies a problem, typically a medical regulating issue. Determining the patient's MEDROE can extend the mission approval process, especially for local nationals or third country civilian contractor.

If the patient's medical requirements exceeded the capabilities of the Level II/II+ treatment facility, the BCT Medical operations made recommendations for patient's transfer direct to a Level III facility by coordinating with the CJTF Medical operations cell. This mIRC coordination between BCT Medical operations and CJTF Medical operations produced an associated "CJTF mission number" that depicted medical "mission approval" on the network chat screen. There is an occasional issue with over-classification of patient(s) that has created

more scrutiny on “ambiguous patient status” situations. The medical “mission approval” also reviews MEDEVAC request for validity of evacuation precedence.

Simultaneous to the medical mission analysis for mission approval, the MATF Battle Captain conducts mission analysis for launch authority by initiating a MEDEVAC battle drill while the MATF TOC staff members focus on their specific role of assessing the 9-line MEDEVAC requirements, low-illumination criteria, weather/visibility, current enemy threat, and the de-confliction of airspace. The goal is to provide their commander with the medical information and associated crew risk analysis quickly. Low risk “launch authority” resides with the MATF commander, medium risk the CAB Commander, and high/extremely high risk the CJTF Commander. Most MEDEVAC missions required CAB Commander approval due to low illumination and threat situation.

All MEDEVAC and escort/chase crews conducted a “24-hour cycle MEDEVAC air mission brief.” The crew risk assessment considered these factors: command relationship, mission complexity, additional mission factors, threat risk, weather, moon illumination, FLIR conditions, crew selection, fighter management, NVG crew selections, and HH60 additions. These criteria each had an associated risk value. The total value was shown on the risk assessment sheet which provided leaders with the total risk level for the 24-hour cycle with forecasted criteria. This total risk value was briefed and approved by the associate risk level commander before the MEDEVAC 24-hour duty cycle started. Even if an “incoming MEDEVAC request” does not exceed the totaled risk assessment criteria, known as “approved mission parameters” the launch authority was not given until respective commander was notified during the on-going MEDEVAC mission coordination. This launch authority process has come under scrutiny from the field. With good results, all MATF staffs had diligently worked to refine the launch authority process. However, there is still the opinion that the launch authority process should be used to STOP the launch only when “approved mission parameters” have been exceeded by incoming information analyzed by MATF.

Historically speaking, the mission approval and launch authority process are relatively new factors in the MEDEVAC equation. Today’s technology in the TOC is leveraged to provide commanders pertinent information enabling the experts to monitor/validate specific conditions of evolving MEDEVAC missions. There is much good in the new risk mitigation equation of both mission approval and launch authority. The leader’s goal is to consider all timely information and to make the right decision at the right time, for the right reason while integrating common sense into every decision.

The CJTF use of MEDEVAC to promote information operations (IO) has proved beneficial. The MEDEVAC of local nationals has been a positive initiative in each of the regional commands. These missions typically involve civilians not eligible for care under the U.S. and ISAF MEDROE and for whom capable treatment

exists within the local national healthcare sector. Approved MEDEVAC missions are used to transport injured local national to host nation facilities.

U.S flight medics assisted the Afghan National Army in a three-week training program of eleven Afghanistan flight medics. They received training on the following topics; basic MEDEVAC concept, EMT-Basic, trauma assessment, airway management, and some advanced skills. They also received live MEDEVAC mission training. A flight surgeon in the CAB conducted occasional medical services to local children in some austere locations. The use of MEDEVAC/medical services as an IO tool involves a conscious decision to deviate from the medical rules of engagement (MROE), when the IO benefits outweigh the risks. This type of operation benefits the CJTF, as a means to enhance support for governance and public diplomacy. At ISAF and CJTF, medical regulating officer's need a comprehensive well-coordinated medical IO campaign. Medical information operations can have strategic implication in the current COIN environment.

Some staffs at different levels have created ad-hoc groups to discuss different aspects of MEDEVAC missions that did not meet the standard medical or aviation criteria or did not conform to the known process. This type of after-action review should be formalized at the ISAF level for each regional command.

Insights/Lessons

The MATF TOC(s) rehearsed MEDEVAC battle drills in pre-deployment, were aggressively refined for efficiency with early OEF experiences.

CAB should consider more centralized MEDEVAC planning to maximize flexibility in MEDEVAC coverage.

The limited number of MEDEVAC aircraft should be assigned to an MATF based on the number of MEDEVAC missions required.

The Medical Rules of Eligibility (MEDROE) with other than U.S. Soldiers can become a dynamic complex process. Units deploying should let current theatre MEDROE policy drive their pre-deployment training.

CJTF surgeon staff should form a formal MTF/MRO/MEDEVAC working group prior to deployment.

DOTMLPF Implications

Leadership and Education: Army combatant commands standardize the use of medical/MEDEVAC performance improvement working group. (CJTF medical

operations, maneuver medical operations, treatment facility, medical regulating, MEDEVAC).

Topic 3.3: Medical and MEDEVAC Pre-Deployment Training

Sub-Topic 3.3.1: Medical Training

One MEDEVAC commander stated that his unit lacked theater specific medical information during their pre-deployment training. They did not have Regional Command (East and South) medical plan, medical layout, MEDROE, medical capabilities, and limitations.

The MEDEVAC unit took a significant amount of time and resources to get all flight medics trained to readiness level-one flight status. Nine of twenty flight medics that eventually were assigned were ground medics. This created a significant training challenge for the Air Ambulance (AA) Company. The AA Company conducted an aggressive flight-medic training program in preparation for deployment, yet flight medics experienced some shortcoming in the handling of advanced trauma patients.

The unit did not fully anticipate the second and third order effects of the overwhelming size of the AOR, volume of MEDEVAC missions, difficult terrain, adverse weather, patient numbers/severity, long lines of evacuation and the enemy threat. In addition, with extended evacuation routes to level II+/III MTF, coupled with the frequent use of the far-forward surgical teams conducting "damage control surgery," a concern developed about the flight medic(s) skill level. Although, the MEDEVAC unit did a great job at individually training flight-medics: EMT-I, OEMS course, and live tissue training. It was common for flight medics to receive patients from far-forward surgical teams that exhausted their skill level with the challenges associated with advanced trauma patients on ventilators, monitors, IV pumps, chest tubes, and patients having been administered drugs for sedation and pain.

AA Company Commander must develop a training plan with the chaplain and the combat stress control team that addresses the "role of the flight medic." The training should be focused on realistic expectations of the flight medic in a combat environment. Currently, the 12 -15 month rotations of continuous advanced trauma patients can mount stress on flight medics.

The CAB flight surgeon, MATF flight surgeons and Aviation PA's had difficulty in executing a comprehensive trauma-training program as the majority of providers were not yet assigned or not released of clinic duties. All medical providers including flight medics should have an opportunity to conduct comprehensive trauma training program of instruction, instruction for "packaging patients," vent-way management, and a focus on operation versus clinical medicine. The

training emphasis should be on live tissue training and the “how and why” of operational emergency medical skills. The Joint Enroute Care Course was acknowledged as a missed opportunity for all the providers.

Limited medical evacuation aircraft and limited Level II/III medical treatment facilities created long evacuation lines to the facilities and the use of forward surgical teams (split into forward surgical elements) providing “damage control surgery” in austere far-forward location. This has created a new requirement for MEDEVAC “enroute care” to become “critical enroute care.” A patient who has had “damage control surgery” requires “critical enroute care,” this exceeds the flight medic(s) medical training/protocols. To overcome the situation, each MATF flight surgeon and some aviation PAs are pulling MEDEVAC duty. They are executing MEDEVAC missions along with the flight medic due to the “critical enroute care” issue. Patients leaving far-forward surgery are on ventilators, IV pumps, chest tubes and patients have been administered advanced medications and require additional medications enroute. These patients require the critical care capabilities equivalent of the Air Force Critical Care Air Transport Team (CCAT).

In preparation for a bigger U S footprint in Afghanistan, ISAF medical planners should begin to incorporate more Air Force fixed wing MEDEVAC aircraft to increase the speed and reduce the workload on rotary wing aircraft. ISAF staff should develop plan to develop future fixed wing suitable runways in austere regions in Afghanistan.

Insights/Lessons

In pre-deployment training CAB and AA Company must incorporate realistic challenging medical enroute scenarios to challenge the flight medic.

Prepare medic for stresses and expectations of losing a patient in combat. Units should have a Chaplain and a combat stress control team generates a work-plan with flight medics on expectation of their role as a flight medic.

Through aggressive realistic pre-deployment training, the MATF learned the value of training battledrills and TTPs for coordinating altitudes, de-conflicting airspace, de-conflicting firing lane, and firing lines for MEDEVAC missions.

The unknowns of the mission when developing medical training programs for their unit challenged commanders. Focus should be on operational emergency medicine – advance trauma live tissue training.

ISAF should develop suitable runways for Air Force fixed wing MEDEVAC aircraft in the austere regions of Afghanistan.

DOTMLPF Implications

Training:

AMEDD and MEDEVAC units lack a flight medic protocol as a community, would serve as foundation for having common standards of care.

AMEDD increase focus and training opportunity on operational emergency medicine – advance trauma live tissue training.

Sub-Topic 3.3.2: Aviation Task Force MEDEVAC Training

Administrative, logistical, organizational, operational implications were demanding for the CAB commander. Each of the four MATFs conducted individual, collective, and unit level pre-deployment training that incorporated a rotation at a Joint Readiness Training Center rotation (JRTC), Fort Carson High Altitude Aircraft Training (HAAT), and a Fort Rucker Aviation Command Post exercise. MATFs exercised new command relationships, shared logistical and maintenance experiences and developed TTPs while conducting MEDEVAC operations during each training phase.

MATF units aggressively conducted integrated training with their respective Forward Support MEDEVAC Team (FSMT). A FSMT was attached to each MATF and given an area support role. The MEDEVAC commander thoroughly briefed each MATF commander on FSMT responsibilities, capabilities, limitations, and medical capabilities/ requirements.

A high optempo, point of injury (POI) pick-up and delivery to a Combat Support Hospital (CSH) scenario challenged the FMST during the JRTC rotation. The JRTC enroute care scenario exercising the medical skill level of the flight medic was weak at best. However, the MATF experienced significant training value by focusing on MATF and staff integration with MEDEVAC battle drills and emerging TTPs such as coordinating altitudes, de-conflicting airspace, de-conflicting firing lanes for MEDEVAC missions. Each MATF shared their lesson learned from their JRTC rotation with the follow-on MATF. The CAB exploited the lessons learned in staff battle drills and unit's emerging TTPs which fostered their combat efficiency of MEDEVAC operations.

The Fort Carson high altitude training incorporated individual, collective and unit level tasks. The MATF used the Fort Carson simulators to practice power management for mountain landing zone operations and hoist operations. They conducted day and night goggle flights in formation(s) of three aircraft to practice landing operations and out-of-ground-effect (OGE) maneuvers from 7000 to 11,500 feet. This training culminated with a variety of scenarios emphasizing real world collective high altitude missions such as DART, Pathfinder insertion,

attack, MEDEVAC hoist with jungle penetrator and hoist with a collapsible litter system (SKEDCO), and MEDEVAC escort/chase missions. Enroute care training focused on medical procedures was not realistic or challenging.

MEDEVAC escort/chase operations were part of all pre-deployment training. The units rehearsed escort/chase operations TTPs and rock drilled all segments of the MEDEVAC mission. MEDEVAC crews conducted Air Mission Briefs and trained with both attack and assault aircraft developing command relationships, acute aircrew insights, understanding of mission requirements and limitations for individual aircrews and MATF staffs.

Once in Afghanistan, experience lead units to capture new TTPs and refine others. The CAB initially established a 12-hour escort/chase cycle with a 24-hour MEDEVAC crew rotation. This quickly changed to 24-hour escort/chase cycle once complication occurred. The 12 vs. 24-hour difference in duty periods occasionally created challenges when there was a disparity in crew qualifications between the MEDEVAC and escort/chase aircrews. In some cases, the escort/chase crew was not qualified to perform night/goggle missions which limited their mission capability. Having the same 24-hour duty cycle aligned MEDEVAC and fighter/chase crew qualification.

The UH60L chase aircraft were used to assist as a CASEVAC aircraft in MASCAL situations or haul additional medical gear for the MEDEVAC aircraft.

MEDEVAC aircraft with FLIR had better night capabilities than some escort/chase aircraft which created dissimilar mission-abort criteria for the crews.

Escort/chase aircraft launch response times and enroute airspeed limitations (Apache 100 knots & Kiowa 80 knots) often slowed MEDEVAC missions. Co-locating escort/chase crews and MEDEVAC crews eliminated response time problems for the 24-hour duty cycle. In addition, it increased the crew cohesion of the two different mission tasks.

Insights/Lessons

During aggressive realistic pre-deployment training, the MATF learned the value of training battledrills and TTPs for coordinating altitudes, de-conflicting airspace, de-conflicting firing lanes, and firing lines for MEDEVAC missions.

Airspeed limitations of the escort/chase aircraft limited MEDEVAC aircraft airspeed.

Early training of escort/chase and MEDEVAC aircraft develops effective response team.

Co-locating escort/chase and MEDEVAC crews creates cohesion and added efficiency.

DOTMLPF Implications

Training: Incorporate MEDEVAC and escort/chase aircraft into battledrills and aircrew training in the Army's institutional schools and unit level training.

Chapter 4

Unmanned Aerial Systems Operations of the Combat Aviation Brigade in Operation Enduring Freedom

While hitting, one must guard...In order to hit with effect, the enemy must be taken off his guard.

-Sir Basil H Liddel-Hart, Strategy

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Summary

The CAB's UAS assets consisted of one Warrior-A Company (four air vehicles) and one Hunter platoon (four air vehicles). The UAS assets of the CAB have proven very successful on the battlefield and are in extremely high demand by all supported units. However, both of these systems are new to the CAB and were recently fielded which tended to present several technical issues inherent of a newly fielded system.

Key Insights / Lessons

The Warrior-A is employed primarily by the CJTF as an operational area surveillance system focused on named areas of interest (NAI) or targeted areas of interest (TAI). The employment of the Warrior-A is not optimized as a focused and integrated element of the tactical find, fix, finish, exploit, and analyze (F3EA) capability of either the MATFs or supported maneuver units.

When employed as the over-watch element supporting high profile operations, such as a personnel recovery (PR) event or downed aircraft recovery, the sensor systems monitored the operation providing full motion video (FMV) to the CJTF and CAB TOCs. Warrior-A systems did not assume a true over-watch posture and focus on surrounding elements of complex terrain and, or enemy activity and provide situational awareness and tactical reaction time for the supporting MATF QRF.

Air mission requests for Hunter tend to focus on Infrared/Electro-Optical (IR/EO) capabilities.

Key DOTMLPF Implications

Doctrine: Allow the CAB commander to plan and execute Warrior-A missions as massed RSTA element in support of his decentralized MATFs in order to find the low-contrast enemy, fix his exact location, and swiftly finish the target with MATF attack or assault capabilities in conjunction with the collection plan of the CJTF C-2 CMD section.

Training: Incorporate basic scanning methods and intelligence analysis techniques into the UAS operator training.

Material: Develop and field a secure voice capability for Warrior-A systems.

Leader Development: Establishment of a UAS Leader's course is required for all UAS platoon leaders and company commanders prior to or shortly after assumption of command and prior to deployment.

Topic 4.1: Warrior-A, UAS Technical Issues

Discussion

Deployment of the Warrior-A Unmanned Aerial Systems (UAS) with the Combat Aviation Brigade (CAB) was a first for the unit. The systems rapid fielding resulted in several technical issues. These technical issues are affecting the operations of the CAB's Warrior-A fleet in Afghanistan. Some of these issues have fixes in progress and others have no solutions available at this time.

The unit is allocated one primary and one alternate voice communications frequency. However, the alternate frequency is used as an air vehicle ground check frequency by Army and Air Force units, rendering the frequency virtually unusable as a an actual backup for operational use. This makes switching to the alternate frequency virtually useless during normal operations.

Lack of secure voice communications capability for the system operators is a key weakness. The crew has Very High Frequency (VHF) and Ultra High Frequency (UHF) communications radios, however neither has a secure capability. This presents a challenge for the crew when coordinating with supported air or ground elements. To make contact via voice, the supported element must go unsecure to speak to the UAS crew. Most elements are reluctant to conduct unsecure communications during combat operations. The crews are using Military Internet

Relay Chat (mIRC) as a work around for the issue, but it is not always the best solution for clear, concise, and timely communications.

The Blue Force Tracker (BFT) system was installed on all of the air vehicles however, it was not functioning. This reduces the crew's situational awareness and precludes an accurate picture for commanders using BFT and associated systems that use BFT feeds. A software fix is in progress to eliminate the problem but the fielding is not complete.

The Synthetic Aperture Radar (SAR) package was not installed on the Warrior-A assets in Afghanistan. This system is being used in the Iraq Theater of operations with great success. When available, this system will prove invaluable to COIN operations on going in the Afghanistan Theater.

Insights/Lessons

Supported tactical units effectively combine SATCOM and mIRC messages between TOCs to relay secure commands to the Warrior-A operators.

Non-operational Blue Force Tracking (BFT) systems (due to software) significantly reduce situational awareness, to include flight path information and sensor azimuths, for supported unit TOCs

DOTMLPF Implications

Material: Develop and field a secure voice capability for Warrior-A systems.

Topic 4.2: Warrior-A Employment

Discussion

The employment of the Warrior-A by the Combat Aviation Brigade (CAB) represents the first time this asset was employed in Afghanistan. The missions flown are directed by the CJTF 101 Collection Management and Dissemination (CMD) section of the C-2. The CAB commander is the mission approval authority for each mission launch.

Employment of the Warrior-A during convoy and downed aircraft operations focused too much on the supported elements and tended to disregard the areas surrounding the supported element. Focusing on the surrounding areas provides an over-watch capability to detect the presence or movement of enemy forces and allow reaction time for the supported element to take appropriate action or for other aviation assets to maneuver and provide support. Warrior-A payload operators receive no training in scanning methods and basic intelligence analysis

concepts. This perpetuates the operator's tendency to simply focus on the supported element rather than focusing on securing adjacent areas that might influence the situation. However, most operators are gaining a rudimentary understanding of these concepts on the job.

As a result of multiple mission and tasking authorities, dynamic re-tasking of the Warrior-A is typically restricted to troops in contact (TIC) situations. This limits the Warrior-A's capability as a Reconnaissance, Surveillance, and Target Acquisition (RSTA) platform which results in its use simply as an Intelligence, Surveillance, and Reconnaissance (ISR) platform focusing on CMD-directed missions and standard Named Areas of Interest (NAI). This mission set also limits the CAB's ability to conduct deliberate missions using the Warrior-A in conjunction with the MATF. By conducting deliberate missions within the CAB, the Warrior-A provides the MATF commander the best asset for finding and fixing the enemy from which his air assault, attack, and reconnaissance forces finish and exploit the target. This means of employment enhances the CAB commander's ability to perform manned/unmanned teaming which proved extremely effective and lethal in the Iraqi theater of operations.

Insights/Lessons

When employed as the over-watch element supporting high profile operations, such as a personnel recovery (PR) event or downed aircraft recovery, the sensor systems monitored the operation providing full motion video (FMV) to the CJTF and CAB TOCs. Warrior-A systems did not assume a true over-watch posture and focus on surrounding elements of complex terrain and, or enemy activity and provide situational awareness and tactical reaction time for the supporting MATF QRF.

Warrior-A Payload Operators are not trained in basic scan techniques using the IR/EO systems to effectively conduct reconnaissance, surveillance, and target acquisition (RSTA) tasks.

The Warrior-A is employed primarily by the CJTF as an operational area surveillance system focused on named areas of interest (NAI) or targeted areas of interest (TAI). The employment of the Warrior-A is not optimized as a focused and integrated element of the tactical find, fix, finish, exploit, and analyze (F3EA) capability of either the MATFs or supported maneuver units.

DOTMLPF Implications

Doctrine: Allow the CAB commander to plan and execute Warrior-A missions as massed RSTA element in support of his decentralized MATFs in order to find the low-contrast enemy, fix his exact location, and swiftly finish the target with MATF

attack or assault capabilities in conjunction with the collection plan of the CJTF C-2 CMD section.

Training: Incorporate basic scanning methods and intelligence analysis techniques into the UAS operator training.

Topic 4.3: Hunter Unmanned Aerial Systems (UAS) Platoon Operations

Discussion

The Multi-functional Aviation Task Force (MATF) task organization included a four-air- vehicle Hunter Unmanned Ariel Systems (UAS) Platoon. This UAS has proven very successful during operations with the supported Brigade TF in Regional Command East (RC-E).

To incorporate the finishing function of Reconnaissance, Surveillance, and Target Acquisition (RSTA) requires a minimum of 72 hours planning to gain all necessary approvals to action targets. The Rules of Engagement (ROE) and lack of a dedicated finishing force limits the maximization of the effectiveness of the system as a RSTA asset.

The platoon leader stated that at numerous times supported units tended to request full motion video (FMV) from the Hunter and neglected its primary SIGINT capability. Although at times this is beneficial to the supported element, it limits the full utilization of the asset's capabilities. The platoon leader stated that he is committed to not allowing the asset to become a Full Motion Video (FMV) platform by close coordination with the supported Brigade Combat Team (BCT) TF during the mission planning process. This has proven repeatedly that the Hunter provides data that is much more valuable than simple FMV and it provides a better understanding of the system's planned targets and their relation to the ground tactical plan.

Dynamic re-tasking during missions is very slow. Due to the complex nature of the battle space and the multiple approval channels for mission tasking and flight authorization, the process of dynamically re-tasking is slow at best. The MATF commander summed up the process by stating that re-tasking is a matter of requesting "what will get approved" rather than "what can we do" with the platform.

The extensive number of mission requests demonstrates the success of the Hunter UAS and the crew endurance and maintenance challenges presented by the current Operation Tempo (OPTEMPO). The platoon leader stated that he has had to learn to say no to mission requests to prevent his crews from exceeding their fighter management limitations.

Insights/Lessons

Air mission requests for Hunter tend to focus on IR/EO capabilities at the expense of the Hunter's significant SIGINT capability.

Commanders must understand the capabilities and limitations of the Hunter. Timely and in-depth planning ensures success of each mission and allows the most efficient and effective use of the platform.

Dynamic re-tasking is severely inhibited by the ROE and the mission approval process.

Topic 4.4: UAS Leader Training

Discussion

An Aviation captain, 15B Aviation Combined Arms Operations, commanded the Warrior-A company and the Hunter platoon leader was a Military Intelligence lieutenant, 35D All Source Intelligence. Neither officer received any UAS-specific training prior to assuming their duty positions. A similar finding was revealed during a recent Directorate of Evaluation and Standardization (DES) Assistance and Assessment visit to CJTF 101. During that visit, the brigade combat team (BCT) commander's recommendation for his Shadow UAS platoon leader was a four-week course rather than the one-week course received.

The Warrior-A company commander did visit the Unmanned Aerial System Training Battalion (UASTB) at Fort Huachuca, AZ to familiarize herself with UAS operations prior to deployment. However, this was not a formal course of instruction.

Insights/Lessons

Leaders are never as effective as they could be if they lack training on the equipment they are expected to employ in combat. All officers designated to lead UAS formations must attend some form of formal training regarding capabilities, employment, and maintenance of UAS prior to deployment.

DOTMLPF Implications

Leader Development: Establishment of a UAS Leader's course is required for all UAS platoon leaders and company commanders prior to or shortly after assumption of command and prior to deployment.

Chapter 5 Command and Control of the Combat Aviation Brigade

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Summary

Command and Control of the Combat Aviation Brigade in Operation Enduring Freedom presented a number of significant challenges for the CAB Commander. The unit was successful due to effective task organization of the subordinate Aviation Battalions, use of the available technology for synchronization, and development of tools that streamlined the decision making process for Aviation Operations.

The Combat Aviation Brigade (CAB) task organized its subordinate units into four Multi-functional Aviation Task Forces (MATF) prior to deployment in support of Operation Enduring Freedom. The CAB Commander assigned two of his MATFs, each headquartered by Attack Reconnaissance Battalion (ARB) Commanders and Staffs, in Direct Support of the two Brigade Combat Teams respectively. The Commander employed the remaining MATFs, controlled by the Assault and General Support Aviation Battalion (GSAB) Commanders, in a General Support role for the Joint Task Force. Except for one MATF (the GSAB), the Brigade assigned its subordinate units to geographically remote Forward Operating Bases in order to provide coverage to a 300 mile-wide footprint. The Commander co-located the ARB Task Forces with the supported BCT Headquarters, and he placed his General Support Task Forces in the areas where they could best provide the required area support.

To facilitate this geographic separation, the CAB Headquarters relied heavily on technology to synchronize efforts, using real-time battle tracking tools as well as Commercial Off-the-Shelf (COTS) software for collaboration to coordinate operations and mitigate risk for the entire CAB. The commander used this collaborative software to integrate himself and the CAB staff into approval and planning for Air Assault/Air Movement Operations, since these were the dominant forms of maneuver, and presented the highest degrees of tactical and accidental risk. Likewise, the CAB used automation and matrix-based risk analysis tools to streamline the approval process for Aero-medical Evacuation

(MEDEVAC) missions, providing timely coverage for a massive area, both for Coalition service members as well as local national civilians and security forces.

Topic 5.1: Task Organization of the Aviation Battalion Task Forces

Discussion

The ARFORGEN cycle significantly restricted the CAB's ability to task organize and effectively train as Aviation Battalion Task Forces prior to deployment. The CAB task organized into four MATFs "on paper" around D-180, but the battalions remained organizationally intact until each deployed into their respective Areas of Responsibility (AOR). The ARFORGEN timeline significantly restricted the availability of key personnel for the proposed task organization, limited the availability of aircraft due to RESET, and reduced the CAB commander's flexibility in executing the required pre-deployment task organization.

The Division resourced the CAB and subordinate battalions for extensive pre-deployment training to include the High-Altitude Aviation Training Site (HAATS) qualification for aircrews, environmental training at Ft. Bliss, Texas, and Combat Training Center (CTC) rotations at the Joint Readiness Training Center (JRTC). The battalions executed each training event with some representative elements of their respective MATF (i.e. the GSAB took AH-64Ds and OH-58Ds to each training event). The ad hoc organization for training did allow battalions to familiarize staffs and subordinate elements with the various missions and roles of incoming units; however, most MATFs did not conduct task force level collective training with all elements, to include scenario driven combined Table VIII live fire, integrated air assault operations, or air-ground integration.

Early task organization would help set the conditions for combined operations to include the battle staffs, unity of command, Pathfinder integration, and aviation sustainment. Commitment to full task organization at home station would have enabled the MATF Commanders to identify weaknesses in their organization as applied to the daily execution of the multifunctional Aviation Battalion Task Force missions. Members of each Task Force remarked that the organizations struggled during the deployment in several areas that would have likely been resolved with an earlier reorganization. First, the "pure" battalion staffs lacked the depth of experience required for mission planning for the inorganic assets assigned to their headquarters. For example, the AH-64D Battalion Staff had institutional knowledge of Air Assault planning; however, they had no practical understanding of the intricacies that Assault Battalion members would bring to the planning process. Secondly, the "pure" staff lacked the aviators to relieve the inorganic units with supported aviators, i.e. the Assault Battalion had no OH-58D aviators to fly missions with the attached Kiowa Warrior Company. The result was that the inorganic units typically had exactly the number of crews for their aircraft. This left no room for leaves, sicknesses, et cetera. A practical solution to

both of these problems is to cross-level the staffs in proportion to the number of airframes in the Task Force. This solution requires though, that the CAB reorganize well in advance of deployment. Finally, the Task Forces had varying degrees of difficulty in administratively integrating inorganic Military Operational Specialties (MOS), new parts, bench stock, and special tools into the Aviation Unit Maintenance (AVUM) companies in order to repair four airframes.

Insights/Lessons

Establish the same task organization in pre-deployment that the unit will have in combat. If done correctly, each echelon of command and support will perform as if it was business as usual from the beginning of the deployment versus 3 months into it.

Creating multiple similar MATFs requires a larger logistical package. Each MATF must have its own portion of ASL, PLL, special tools, diagnostic equipment, and mechanics for each airframe. Situation and terrain may not allow for a centralized maintenance facility.

Topic 5.2: Command Relationship for the Aviation Battalion Task Forces

The Commander organized two of his subordinate task forces, headquartered by the General Support Aviation Battalion (GSAB) and Air Assault Battalion Commanders and Staffs, in General Support for Combined Joint Task Force (CJTF) 101. The CAB organized the remaining two Task Forces around the Attack Reconnaissance Battalion (ARB) (Heavy) and ARB (Light) Headquarters. These Task Forces each supported one of the two Brigade Combat Teams (BCTs) assigned to their respective AORs with a Direct Support (DS) relationship to the BCT Commander.

Each BCT Commander had Mission Approval authority for his supporting ARB, to include Air Assault and MEDEVAC⁴ missions. The CAB Commander retained mission approval authority for the Task Forces in General Support to CJTF 101, which typically consisted of logistics and personnel movement throughout the theater on approximately 25 “ring routes,” which were a series of daily sequential movements to and from Forward Operating Bases (FOB). Air movement of passengers (pax) and equipment in Afghanistan was absolutely vital due to the distances between the FOBs coupled with the often-impassable terrain for vehicles.

⁴ Mission Approval for MEDEVAC missions requires input from the BCT’s Medical Regulating Officer (MEDRO). The BDE MEDRO may approve missions so long as his BDE’s medical facilities can provide the requisite treatment for the casualty. Mission approval moves to the next higher echelon if the casualty requires treatment that the BCT cannot provide with organic assets.

The CAB Commander delegated composite risk approval authority for low-risk missions to the MATF Commanders; however, he retained moderate-risk approval authority for all missions, to include the missions that the DS Task Forces executed. The Combined Joint Task Force Deputy Commanding General for Operations approved high-risk missions. Due to the illumination cycle and presence of threat in most areas of operation, there were very few low risk missions, resulting in the requirement for the CAB Commander to conduct daily update briefs that included detailed risk approval decisions. Because of this mission approval / risk approval process, the CAB and its subordinate Task Forces planned missions and QRF crews on a 24-hour cycle.

Insights/Lessons

Clearly define all subordinate units Command/Support relationships

A hybrid Command/Support plan is a must – no cookie cutter – e.g.:

DS MATFs: Through delegated authority, the supported BCTs streamlined the mission assessment, assignment and approval process by doing all of it at the BCT level. However, the risk approval process was centralized at CJTF.

GS MATFs: The CAB conducted centralized mission assessment, assignment, approval, and risk approval for the MATFs that mainly worked in someone else's AOR.

Topic 5.3: Battle Tracking and Synchronization Tools

The Combat Aviation Brigade relied heavily on automated tools for both battle tracking and synchronization of efforts. The CAB Headquarters, as well as each Multi-functional Aviation Task Force (MATF) used Command Post of the Future (CPOF) in parallel with Blue Force Tracker (BFT) and military Internet Relay Chat (mIRC) for battle tracking. Although these systems have overlapping capabilities, the CAB continued to use each as a result of data latency, CPOF input limitations, internet bandwidth constraints. For synchronization of efforts in future operations, the entire Combined Joint Task Force (CJTF) used Microsoft PowerPoint, Falconview, and Macromedia Breeze (network teleconferencing) for collaboration. Although the process was cumbersome and occasionally labor intensive, the organization leveraged these systems effectively to ensure success in Command and Control of its subordinates that were geographically separated by over 300 miles.

In order for the Commander to maintain an accurate Common Operating Picture (COP), the Brigade Combat Teams (BCT) and CAB used Blue Force Tracker for individual elements to report both their positions and significant activities (SIGACT) through the use of Spot Reports. Each Battalion and Brigade Tactical

Combat Aviation Brigade in Afghanistan Initial Impressions Report
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Operations Center operated a BFT station to receive these reports, and the battle staff was responsible for input of these SIGACTs into CPOF. The CAB HQ was unable to input SIGACTs, however, because CPOF limits this capability to the headquarters of the unit that "owns" the ground on which the SIGACT occurs. Since the CAB owns no ground, the CAB Commander depended on the Ground Maneuver Commander's TOC to input Aviation Spot Reports into CPOF, often requiring prompts from the MATF or CAB TOC via mIRC or telephone to ensure that action was taken on the information.

Although this process was cumbersome, it served the purpose of preventing overlapping Spot Reports from overpopulating the CPOF and skewing the commander's COP. For example, if an OH-58D, an Unmanned Aerial System (UAS), and a ground convoy commander each reported the same SIGACT, the battle staff in the BCT TOC could discern that there was one event, and input this event once into CPOF. If each element had input the SIGACT independently, then the commander could be led to believe that there was three times the activity in his Area of Operations than was actually the case.

The commander elected to use BFT and CPOF in parallel to serve the additional purpose of defeating data latency. Given an observed latency of nearly ten minutes in the CPOF as opposed to 90 to 180 seconds with BFT, exclusive use of CPOF could exacerbate the situation described above by posting the same event three times over a half hour, resulting in further confusion for the commander. Again, this requires vigilance on the part of the BCT TOC, and there pros and cons for parallel use of the overlapping systems. The material solution to overcome the overlapping systems is the development of data fusion for CPOF, which could decide what reports are identical and post them appropriately.

Command Post of the Future is a multifunctional system that can serve a number of purposes, but is limited in Afghanistan by bandwidth restrictions for SIPR. In addition to real-time battle tracking, this system allows the commander to conduct voice and video conferencing for synchronization of future operations. Again, the CJTF Commander used alternative forms of communication to serve this purpose due to CPOF input limitations as well as efficiency in operations through familiarity with other software.

Again, limited bandwidth on the SIPR system restricts use of CPOF to its full potential. Use of all CPOF tools would overwhelm the SIPR system in Afghanistan, so the commander elected to use Macromedia Breeze for sharing operational graphics created in PowerPoint and voice based teleconferencing. Although the CJTF uses this system on the SIPR as well, it is less bandwidth intensive, and it allows the use of familiar Microsoft Office-based products with which the battle staff is already trained. CPOF has all the tools required for this collaboration, and the TOC staff is trained in its use. The primary staff, however,

is untrained in its use, so they use systems in which they are familiar to create and present daily briefings.

As with the implementation of all new systems, there are growing pains. CPOF is an extremely capable system for controlling combat units; especially on a linear, contiguous battlefield. The CJTF uses CPOF, considering its limitations, for all of its uses that are practical. For purposes that other tools can better serve, the CJTF uses them for the sake of efficiency. As more battle staffs become familiar with new Army systems and as units expand bandwidth, use of these systems will become more practical. For now, units in OEF are using familiar and available systems to ensure success. Units that follow should be equally flexible with the tools that they use for the execution of Command and Control.

The systems used in today's Command Post have greatly changed the way business is conducted. No longer are there RTOs simply answering 1-2 radio networks each and passing the message to the Battle Captain. The multiple systems all work together to help build the Common Operating Picture (COP). Today's RTO has to be well versed in computer operations – not to mention to be able to conduct several different tasks simultaneously. In addition to knowing the equipment, the Soldier must understand the COP and the operational plans because of the speed at which information travels and parallel lines of communication of today's systems.

As younger soldiers fill the positions in our Command Post, there could develop a generational gap concerning the language used. Language carried over from the civilian world of phone text and chat room language that our younger Soldiers have grown up and used most of their lives might transfer over to the numerous automated systems of the TOC.

Insights/Lessons

The systems used in today's Command Post have greatly changed the way we conduct business.

The most reliable communications in OEF are SATCOM.