

Managing 0-100 Feet Above Ground Level: Aviation Employment, Airspace Management in Decisive-Action Fight

by MAJ Adam S. McCoy

I've served as the brigade aviation officer (BAO) observer/coach/trainer at the National Training Center (NTC), Fort Irwin, CA, for more than 19 rotations, and the question I am asked above any other is, "How do we manage airspace while integrating fires and aviation?" The fact is, airspace management is complicated and becoming increasingly difficult to manage.

New developments in unmanned aerial systems (UAS), combined with our desire to push micro-UAS to the platoon and team level, have made the first 100 feet of airspace within a designated area of operations the most congested and difficult block to manage. As brigades increase aerial system capability, their responsibility to integrate, synchronize and deconflict airspace users within their boundaries also increases; thus, the investment in the air-defense and airspace management/brigade aviation element (ADAM/BAE) must be greater.

Home-station training

Airspace management starts with home-station training during brigade collective training, supported by division headquarters and the combat-aviation brigade. The brigade must develop and implement an integrated aviation-employment strategy for both attack- and lift-aviation support. Integration of liaison officers (LNOs) from the combat-aviation brigade into the ADAM/BAE is critical for the operational success of the brigade combat team (BCT) during collective-training events. Professional military education (PME) and a firm doctrinal foundation is the cornerstone for the way forward.



Figure 1. The 1st Stryker BCT, 25th Infantry Division, conducts an air-assault mission Feb. 8, 2019, at NTC. Integration of LNOs from the combat-aviation brigade is critical for the BCT's operational success during collective-training events. (U.S. Army photo by MAJ Adam McCoy)

Due to the confines of restricted airspace and training area availability, airspace management during home-station training is often done with far less rigor than required for the unit to develop and test the airspace-management

portion of its standard operating procedure (SOP). To be successful with airspace management during decisive action:

- Brigades must have trained it. Brigades must understand how to develop a unit airspace plan (UAP) and how it transitions to the airspace-control order.
- A division-level headquarters is able to and responsible for leveraging its G-3-Air and air-support operations centers to ensure certification of BCT ADAM/BAEs, as well as the fire-support cell, during home-station training to maximize brigade training time at combat-training centers (CTCs).
- PME for Soldiers within the ADAM/BAE is just as important as field training. However, there is a general lack of PME attendance – for example, at the ADAM/BAE, Digital Master Gunner or Joint Firepower courses – which plays a significant role in functional and operational understanding.

Also, airspace doctrine (Field Manual (FM) 3-52, **Airspace Control**, and Joint Publication 3-52, **Joint Airspace Control**) is not well understood by airspace users or managers, including fire support and ADAM/BAE cells and maneuver units.

Planning

For the brigade to integrate, synchronize and deconflict aviation operations, and synchronize airspace users in support of ground maneuver, brigades must conduct the planning and the battalions must refine it. While that sounds intuitive for most, from experience I can say many staffs are unwilling to be directive with subordinate units – primarily due to concerns with battalion-commander or operations-officer personalities – while citing “mission command” or “decision-point tactics” as the reason for the lack of detail. However, mission command does not mean the brigade should hand subordinates an incomplete plan with the idea that subordinate commanders can/should figure it out. As a former “Bronco 07” and mentor of mine once said, “Brigade has a six-to-one planning overmatch over any battalion in the Army.”

This is not a design flaw in our organizational structure. It’s designed to support continuous combat operations. Battalions deserve the opportunity to provide bottom-up refinement, but the time available for refinement can only occur if the brigade has invested in staff processes and planning repetition. Synchronization of echelons-above-brigade (EAB) assets and brigade enablers is the responsibility of the brigade staff and inevitably of the commander. Aviation and airspace planning, not unlike ground-maneuver planning, also falls to the brigade staff for integration, and repetition is the only way to improve. There is no “magic sauce” or shortcuts in detailed planning.



Figure 2. An AH-64 attack helicopter lands at the aviation tactical assembly area (TAA) for rearmament and refuel during live-fire operations at NTC. (U.S. Army photo by MAJ Adam McCoy)

Attack-aviation employment

Development and implementation of an integrated aviation-employment strategy simplifies the BCT's UAP and promotes integration between fires and aviation in support of combined-arms maneuver (CAM). Aviation employment in close-friendly contact is one of the fastest means by which BCTs complicate the maneuver, airspace and fires plans. To reduce operational friction, simplify the airspace plan and reduce fire-mission processing time in a degraded communications environment. BCTs should consider an integrated aviation-employment strategy that minimizes the usage of airspace-coordination measures and airspace-coordination areas (ACAs) for attack aviation. For this strategy to work, BCTs should enable aviation as a maneuver force with appropriate maneuver and graphic-control measures.

During the maneuver plan's development, BCTs often use AH-64s "over the shoulder" or in close-friendly contact in conjunction with a combined-arms battalion (CAB). This method of employment is required occasionally to provide the necessary combat power at the decisive point or to the decisive operation. However, detailed direct-fire control measure (DFCM) planning must be conducted.



Figure 3. A simulated chemical strike on the aviation TAA at NTC is conducted as part of training Sept. 14, 2018.
(U.S. Army photo by MAJ Adam McCoy)

In addition to DFCM planning, a robust communications architecture – including a detailed UAP with multiple air corridors and ACAs – must be developed. Then it must be rehearsed and deconflicted with fires to function well. Employment of the AH-64 as a “mobile fires platform” in support of close-friendly contact minimizes AH-64 lethality due to limited maneuver space within ACAs. AH-64 lethality is also reduced as the evolving situation on the ground becomes more complex as enemy and friendly forces mix. To maximize the AH-64's capability, BCTs are far better off to treat them as a maneuver force, enable them and employ them out front.

AH-64s employed in a shaping operation on the flanks or forward of the coordinated fire line (CFL) provide commanders lethality and observation beyond the capabilities of organic systems or scouts. This method offers attack weapons teams increased freedom of maneuver and lethality while reducing coordination requirements and shortening fire-mission processing times in support of CABs. Integration is still required to ensure operational success. Suppression of enemy air defense in the form of indirect fire or electronic warfare is necessary to support AH-64 maneuver, requiring synchronization and integration by the BCT staff and the aviation fire-support officer. As a best practice, Shadow UAS flown in front of AH-64s cued to an electronic intelligence platform can assist the BCT in identifying enemy air-defense artillery radar and targeting.



Figure 4. An AH-64 helicopter supports the leader battlefield circulation to Blackjack Brigade. (U.S. Army photo by MAJ Adam McCoy)

Lift-aviation employment

Lift-aviation planning is often overlooked and underdeveloped by the brigade staff during the military decision-making process (MDMP). In retrospect, after direct-fire contact is made, staffs quickly recognize their shortfalls in lift planning. Lift planning, like attack planning in a decisive-action operation, requires a fundamental shift in employment methodology. Point-of-injury pickups for medical evacuation (MEDEVAC) and casualty evacuation (CASEVAC) – as well as ring-route support for utility and cargo aircraft – are still conducted on a case-by-case basis, but they occur far less than in the counterinsurgency environment. In decisive-action operations, MEDEVAC and CASEVAC operations are primarily used to support patient transfers from air ambulance exchange points (AXPs) or Role I to Role II medical-support locations.

Bulk-commodity distribution at the brigade echelon is conducted mainly by logistical trains using unit and supply-point distribution vs. CH-47 ring route. Utility and cargo aircraft still have a role in combat resupply, but due to consumption rates of classes of supply during large-scale combat operations (LSCO), their role has shifted to support emergency resupply of finite commodities or battlefield reconstitution. While aerial resupply/air movement support may be trending downward for utility and cargo platforms in the decisive-action training environment, requests for aerial retransmission and air assault have increased. Tempo, range, enemy contact and terrain make communication one of the single most difficult challenges for units to overcome in decisive operations. UAS as well as the UH-60M are uniquely suited to extend a BCT's communications capabilities.

Aerial retransmission can undoubtedly enhance a brigade's communication architecture, but if not sequenced correctly with event triggers, it can negatively impact a brigade operation during a critical phase. In addition to aerial retransmission, the commander's willingness/need to exploit the opportunity and seize key terrain in front of an advancing enemy force has made air-assault operations critical for Stryker BCTs, and it is beneficial for armor BCTs. Detailed planning is the only way to synchronize these operations.



Figure 5. A CH-47 Chinook helicopter conducts an evacuation during an attack on the aviation TAA Sept. 4, 2019, at NTC. (U.S. Army photo by MAJ Adam McCoy)

Airspace planning for lift aviation during MDMP is initially conducted as course of action (CoA) development. It is refined during CoA analysis (wargaming). There are multiple methods brigades can use to plan for the employment of lift aviation to enable air movement, aerial retransmission, air assault, MEDEVAC or CASEVAC while also remaining deconflicted with surface fires:

- The most critical aspect of airspace planning is to ensure the process is codified in writing within the brigade SOPs. Planning for lift aviation should (generally will) involve the support operations officer or sustainment representative, brigade-level S-4, S-1, medical officer, aviation LNO and BAO. Like attack-aviation planning, lift planning should be complete following the development of the maneuver plan as part of shaping or sustainment operation in support of the decisive operation.
- To support MEDEVAC or CASEVAC operations, air AXP's developed by the brigade within each CAB's battlespace affords the brigade the ability to integrate and synchronize aviation assets and airspace in support of patient transfers without directing Role I medical locations.
- Air movement in support of combat resupply and battlefield reconstitution integrated and synchronized through logistic resupply points (LRPs) allows the brigade to further develop airspace in support of sustainment operations.
- Air movement to unit maintenance command posts or combat train command posts is an option for the brigade.
- Proximity to the forward-line-of-own troops and constant survivability moves of those elements can prove problematic and make it difficult, but not impossible, for the brigade when planning.
- The use of LRPs and air AXP's whose locations are directed by the brigade and tasked through mission orders allows the brigade to develop air routes through the CAB's battlespace, remaining deconflicted from primary assigned aircraft and DFCMs while supporting a permissive fires environment.

In LSCO, brigades generally play a much more active role in air-assault planning as well. Air-assault operations against a near-peer threat with an integrated air-defense system requires support above the battalion echelon, but that is generally easier to say than execute. In addition to the threat, units find themselves well inside the 96-hour planning window more often than not. Due to mission complexity and shortened timelines, air-assault operations are incredibly resource (read *leader*) intensive to execute. The most successful brigades have a firm understanding of FM 3-99, *Airborne and Air Assault Operations*, and FM 3-04, *Army Aviation*, integrating air-assault operations into their SOPs and using the weight of the brigade staff.



Figure 6. A CH-47 Chinook helicopter conducts a combat resupply of Blackjack Brigade April 14, 2019, at NTC.
(U.S. Army photo by MAJ Adam McCoy)

The BAO is not the sole brigade staff officer responsible for planning an air assault, and CoA development is generally the latest step in MDMP when a brigade decides to execute air-assault operations. Airspace planning at the brigade to support an air-assault operation should get the aircraft through the brigade consolidation area, a CAB's maneuver space into an ACA's initial point or release point, or the aviation task force's own battlespace. Aviation LNOs from the combat aviation brigade or aviation battalion task force (ABTF) are key to mission planning and ultimately mission success.

Liaison officers

There is little utility in sending the wrong LNO from an aviation brigade or ABTF to support a BCT. LNOs sent to a BCT are an investment by a combat aviation brigade commander.

Qualifications for these officers are stated in Training and Evaluation Outline (T&EO) Task 01-BDE-436: "The aviation brigade commander must implement an LNO certification program at home station to ensure that aviation LNOs are proficient in the full spectrum of air-ground integration. Fully qualified aviation LNOs should be captain's career course graduates and have pilot-in-command experience. They should possess a strong knowledge of the aircraft and the units in the aviation brigade." LNOs must be aircraft agnostic and, in addition to a strong working knowledge of aircraft within the brigade, he or she must also have a strong MDMP foundation.

Although the T&EO suggests that the LNO be a career-course graduate, some of the best LNOs I've ever seen were warrant officers.

In most cases, the LNOs sent from an aviation unit to a BCT serve in the plans section. As planners, they afford the aviation commander maximum lead time on upcoming missions and have access to products as they are developed. Resources permitting, an LNO in the support-operations shop improves the commodity/aviation interface.

LNOs aside, there is no substitute for a commander-to-commander dialogue to shape and develop the plan early to maximize aviation integration.



Figure 7. View of the Central Corridor at NTC as an 11th Armored Cavalry Regiment (Blackhorse Regiment) helicopter moves through it Jan. 20, 2019. (U.S. Army photo by MAJ Adam McCoy)

Conclusion

Development and implementation of an integrated aviation-employment strategy simplifies the BCT's UAP and promotes integration between fires and aviation in support of CAM.

Airspace management is an investment that starts at home station. Airspace management during home-station training must be conducted with rigor or the necessary foundation can never be built. Having the division headquarters integrated into brigade collective-training events can provide an external assessment and facilitate the required rigor at home-station training. ADAM/BAE personnel have a PME requirement that cannot be overlooked and should be a brigade investment. CTCs should not be the first time the brigade employs joint fires.

Develop the ground-maneuver plan first and then build the aviation-maneuver plan that supports it with the necessary airspace required to meet the operational endstate. Employment of AH-64 Apache attack helicopters in the "over the shoulder" role or in close-friendly contact is difficult to manage in a degraded communication environment, and it is the fastest way to complicate the airspace plan and often induce unnecessary operational friction. Employment of attack aviation on the flanks and forward of the CFL with brigade artillery and organic aerial sensors – as well as the cavalry scouts and EAB enablers – simplifies the UAP, and it decreases fire-mission processing time while allowing CABs increased small-UAS employment agility.

Lift aviation provides the brigade commander with opportunities that are unexploitable by any other means. Lift aviation provides commanders the ability to rapidly expand the security zone, seize key terrain in front of an advancing enemy force, move critical classes of supply quickly, reduce communications gaps, improve mission

command and reduce the died-of-wounds rate after contact is made. Airspace must be deliberately planned at the brigade level, and it must have allocated airspace to prevent friction with indirect fires.

Integration of the right LNOs is critical for aviation integration within the BCT. Undervaluing the position by resourcing the BCT with an individual who lacks working tactical-aviation knowledge – or one who cannot plan for all airframes within a combat aviation brigade – is a disservice to the BCT and the aviation unit.

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Acronym Quick-Scan

ADAM – air defense and airspace management

ABTF – aviation battalion task force

ACA – airspace-coordination area

AXP – ambulance exchange point

BAE – brigade aviation element

BAO – brigade aviation officer

BCT – brigade combat team

CAM – combined-arms maneuver

CASEVAC – casualty evacuation

CAB – combined-arms battalion

CFL – coordinated fire line

CoA – course of action

CTC – combat-training center

DFCM – direct-fire control measure

EAB – echelons-above-brigade

FM – field manual

GSAB – general support aviation brigade

LRP – logistic resupply point

LNO – liaison officer

LSCO – large-scale combat operations

MEDEVAC – medical evacuation

MDMP – military decision-making process

NTC – National Training Center

PME – professional military education

SOP – standard operating procedure

T&EO – training and evaluation outline

TAA – tactical assembly area

UAP – unit airspace plan

UAS – unmanned aerial system



Figure 8. Training Day 14's sunrise over the aviation TAA April 18, 2019, at NTC. (U.S. Army photo by MAJ Adam McCoy)