CHAPTER 1
INTRODUCTION TO ARMY AVIATION

There is “the enduring reality of the unknown and the uncertain; not just across the Atlantic and Pacific, but in all regions of the world that continue to harbor danger and turmoil; regions where crisis will occur when least expected.” To meet this reality, contingency forces “provide global crisis and contingency response capability across the spectrum of conflict from counterinsurgency to major conventional conflict.”

General Colin Powell
A Critical Analysis of the Gulf War

1-1. PURPOSE

The purpose of our capstone doctrine is to capture the essence of Army aviation and those principles upon which it is employed across the range of military operations.

1-2. STRATEGIC REALITIES

   a. Recent events have underscored the uncertainty of these times. The post Cold War period has placed unprecedented operational demands on the Army. Civil disturbances, disaster relief, humanitarian and peacekeeping operations, and the threat of lesser regional contingencies punctuate the need for a trained and ready contingency-oriented Army. Amidst these global demands, domestic change and fiscal constraints broaden the challenge.

   b. This era also confirms the application of high technology in future warfare. Weapons with the “effects of massed forces” are available to any nation possessing hard currency. Precision munitions, digital communications, and position location equipment promise to change the face of future battle.

   c. The physical and intellectual dimensions of battlespace urgently demand intuitive and versatile leaders supported by agile battle staffs and well-trained soldiers. Mobility, agility, simultaneity of effort, lethality, increased battle tempo, and space-age logistics must dominate the Army’s restructuring initiatives and investment decisions.

1-3. ARMY’S RESPONSE

   a. The Army has responded to this new environment with continental United States (CONUS)–based contingency and reinforcing forces and some forward-deployed units. Total Force initiatives are underway among the Active and Reserve Components to give broadened meaning to the doctrine development of a trained and ready Total Army, capable of decisive victory. Force restructuring initiatives are being implemented to
leverage high technology for a downsized force. Modernization decisions are focused on projecting and sustaining the force, protecting deployed forces, winning the information war, conducting precision strikes, and dominating the maneuver battle. The result is a combined arms team that leverages all dimensions of the ground regime.

b. Aviation, as a maneuver force, is the third dimension centerpiece of the land force. Reconnaissance, attack, utility, and cargo helicopters complemented by special operations forces (SOF), fixed-wing and medical evacuation (MEDEVAC) aircraft, and air traffic service (ATS) units, comprise our contribution to the fight for a global Army. While the range of military operations demands readiness for a wide range of employment, warfighting is our mission and we cannot lose sight of this obligation.

1-4. A VISION

a. As we look toward the next century and the pivotal role of Army aviation across the full range of military operations, it is imperative that we have a vision—a concept that will serve to guide our collective thought and actions—as we look to the future (Figure 1-1).

b. Although we emphasize and have soundly demonstrated our versatility and proficiency in stability and support operations (SASO), Army aviation’s primary focus remains with combat operations. That focus on warfighting is guided by immutable principles that have stood the test of time and the trials of war.

1-5. AVIATION OPERATIONAL PRINCIPLES

Mission planning and execution are driven by general principles that apply and go beyond the principles of war and the tenets of Army operations. These general principles are as follows:
a. Aviation operates in the ground regime.

(1) This cardinal principle defines aviation’s role as an element of landpower. Aviation is a component of the combined arms team, not the air component of the US Army.

(2) Aviation’s primary mission is to fight the land battle and to support ground operations. Aviation is comprised of soldiers, not airmen, and its battlefield leverage is achieved through a combination of reconnaissance, mobility, and firepower that is unprecedented in land warfare.

(3) Aviation greatly enhances the commander’s ability to apply four fundamental principles of war—maneuver, mass, surprise, and economy of force.

b. Aviation expands the battlefield in space and time at each echelon.

(1) Expansion of the battlefield is necessary to enable the commander to seize the initiative at a critical point in the battle. Aviation expands the ground commander’s battlefield, principally in space and time, by extending the range at which direct fires and observed fires can be concentrated on the enemy; and by expanding his reconnaissance and surveillance envelope beyond the effective range of other systems.

(2) Aviation expands battlespace at each echelon to which it is assigned or attached—providing a capability where none previously existed or enhancing existing capabilities. Aviation allows commanders to achieve the effects of mass without massing weapons systems.

c. Aviation performs combat, combat support (CS), and combat service support (CSS) battlefield functions (Figure 1-2).

(1) Aviation’s greatest contribution to battlefield success is the ability it gives the commander to apply decisive combat power at critical times, virtually anywhere on the battlefield. This may be direct fire from aviation maneuver units or the insertion of overwhelming infantry forces or artillery fires, delivered into combat via air assault. This versatility is the very essence of Army aviation.

(2) CS missions support ground combat operations. These operations include air movement; command and control (C’); ATS; electronic warfare; close in fire support; support by fire; combat search and rescue; and aerial mine delivery. The primary function of these missions is to support combat elements in contact with the enemy.

(3) Aviation performs CSS functions in support of units throughout the entire area of operations. Aviation units enhance the commander’s battlespace through rapid delivery of supplies and personnel and aeromedical evacuation.

d. Aviation is concentrated at division and corps level.
(1) The corps aviation brigade may operate directly for the corps commander or be placed under operational control (OPCON) of a subordinate division. The corps commander can task organize other corps assets, especially division aviation units, under the command of the corps aviation brigade or task the corps aviation brigade to support an armored cavalry regiment (ACR).

(2) The aviation brigade may also be tasked to be a covering force headquarters when augmented by ground forces. The corps aviation brigade conducts attack and reconnaissance operations to find, fix, and destroy enemy forces; it also conducts security, air assault, C2, and air movement operations throughout the corps area of operations (AO).

(3) The corps aviation brigade plans, coordinates, and executes aviation operations in support of the corps scheme of maneuver. It can be expected to operate anywhere in the corps area.

(4) The division aviation brigade conducts all aviation combat, CS, and CSS missions (except ATS and fixed-wing operations) in support of the division scheme of maneuver. The primary mission of the division aviation brigade is to find, fix, and destroy enemy forces within the division area. The division aviation brigade can accomplish this mission as an aviation–pure or task–organized force.
(5) Combined arms battles and engagements are fought by brigades and divisions. Division is the lowest level at which all of the combined arms are normally integrated.

(6) The combination of infantry, armor, and aviation is a habitual association at the division level. All three arms are required for operations, in depth, throughout the course of battle. Therefore, combat aviation must be primarily assigned to, and employed by, divisional aviation brigades, just as infantry and armor battalions are assigned to, and employed by, their parent brigades.

(7) Aviation forces fight as units and must be given unit missions. Aviation units conducting tactical operations are given maneuver objectives rather than individual targets.

e. Aviation units are integrated into the combined arms down to the level at which they will be employed.

(1) The division aviation brigade is the primary level of integration. The brigade commander is responsible for the operation of all divisional aviation; he will normally command and integrate additional aviation units attached or under OPCON from corps.

(2) When aviation units are placed under OPCON of the other maneuver brigades, they normally will be on a mission basis and tailored or task organized with assets from brigade and/or division. A liaison detachment should be placed at the ground brigade command post to improve synchronization and responsiveness, especially in changing tactical environments.

f. Planning times for aviation and ground maneuver elements will be the same.

(1) Aviation units conduct deliberate planning within the same time parameters as the other maneuver elements. Airspace coordination, route clearances, and weather updates complicate the task for aviation staffs; however, for effective combat operations, the standard is the same.

(2) Both ground and air mission planning times can be reduced when plans are carefully integrated, effective liaison occurs, and standing operating procedures (SOPs) are optimized.

1-6. BATTLEFIELD OPERATING SYSTEM

The battlefield operating system (BOS) is comprised of the major functions performed on the battlefield. These functions facilitate the integration, coordination, preparation, and execution of successful combined-arms operations to successfully execute Army operations (battles and engagements) and accomplish military objectives directed by the operational commander. They include intelligence; maneuver; fire support; mobility, countermobility, and survivability; air defense; logistics; and battle command (Figure 1-3).
Commanders use the BOS to integrate and coordinate these functions to synchronize battle effects in time, space, and purpose. Army aviation contributes to all BOS functions addressed in the following paragraphs:

a. Maneuver.

(1) Maneuver is defined as "Employment of forces on the battlefield through movement in combination with fire, or fire potential, to achieve a position of advantage in respect to the enemy in order to accomplish the mission."

(2) During decisive operations, Army aviation’s mobility and firepower make it a dominant force—a force that can gain and maintain contact; destroy the enemy in depth; attack decisive points at the tactical and operational levels; and allow him no safe haven in which to reorganize, rearm, or recover.

(3) Attack helicopter units give the commander a force that can rapidly build devastating firepower at any point on the battlefield.

(4) Army attack helicopters can support the close fight by securing an armored or mechanized force’s flanks—providing aerial fires, target acquisition, and reconnaissance. They can also attack decisive points and critical targets hundreds of kilometers (km) deep in the enemy’s rear area simultaneously.
(5) By destroying follow-on forces, C’nodes, and logistical supply assets before they can be employed against friendly forces, aviation can significantly influence tomorrow’s close fight.

(6) Deep operations require precise synchronization of both lethal and nonlethal assets; aviation performs not only maneuver, but supports other maneuver forces with fires and maneuver. Since this is true, aviation commanders are accustomed to massing effects on the battlefield. We can rapidly mass effects; then just as rapidly shift our focus to a new main effort. This flexibility and versatility are paramount to decisive operations.

(7) UH–60 Black Hawk and CH–47 Chinook units also play a pivotal role in combat operations. The means to project a forward-operating base across hundreds of kilometers allow the friendly force commander to define the battlespace, control it, and engage the enemy at a time and place of his choosing.

(8) UH–60 Black Hawk and CH–47 Chinook units can rapidly move dismounted troops, artillery, and antitank weapons anywhere on the battlefield to attack targets; seize critical terrain; or cut off an enemy’s retreat so he can be destroyed in place.

b. Intelligence.

(1) Intelligence is the product resulting from the collection, analysis, and dissemination of all available information that is immediately or potentially significant to military planning and operations.

(2) The commander drives intelligence by specifying what his intelligence and targeting requirements are; and requiring his intelligence BOS to provide the intelligence he needs, in the format he can use, in time to support his decision-making process.

(3) The commander’s priority intelligence requirements (PIRs) will drive this process. The tasks required to properly integrate intelligence into aviation missions present a challenge for aviation commanders at every level. Primary intelligence tasks are—

- Provide indications and warnings.
- Perform intelligence preparation of the battlefield.
- Perform situation development.
- Perform target development and support to targeting.
- Support force protection.
- Perform battle damage assessment (BDA).
Aviation augments intelligence collection by providing reconnaissance, early warning, target acquisition, electronic support (ES), and BDA.

Army aviation also assists the intelligence effort by conducting missions to attack the enemy’s command, control, and intelligence (C2I) systems; and by conducting missions to protect friendly C2I.

Army aviation provides the commander with near real–time intelligence throughout his battlespace with its attack and cavalry aircraft and special electronic mission aircraft (SEMA). In fact, with the OH–58D Kiowa Warrior and AH–64 Apache, a single combat system can find, fix, and observe or destroy enemy assets across the depth of the battlefield.

Aerial exploitation battalions (AEBs) exist in most Army corps; they provide an organic deep look capability for the corps commander, focusing on second–echelon forces that can influence the fight greater than 72 hours into the battlespace. The Guardrail Common Sensor can provide targetable communications intelligence (COMINT) and electronic intelligence (ELINT) on enemy targets as far as 300 km away. Besides Guardrail, Airborne Reconnaissance Low (ARL) provides all–source imagery and signals intelligence throughout the range of military operations.

At the division and armored cavalry regiment, the EH–60 Quickfix is an important SEMA asset for conducting intelligence and electronic warfare (IEW). The EH–60A (Quickfix) and the follow on EH–60L (Advanced Quickfix) provide the commander with signal intelligence and electronic jamming capability using the advantage of aviation mobility.

Intelligence is critical to the successful conduct of aviation operations—particularly deep operations. Army aviation units often require joint, theater–level intelligence support; joint and echelon above corps (EAC) assets must be integrated into the aviation collection plan. This is particularly vital to engagement area (EA) planning and development. The intelligence links necessary to “see” an EA must be emplaced in a timely manner and continuously monitored.

Another critical area that requires the same level of detailed planning and joint/EAC support is joint suppression of enemy air defense (JSEAD). JSEAD is more than planning artillery fires. It is a synchronized plan that integrates all available lethal and nonlethal joint assets into an operation concentrating on dismantling the enemy’s entire air defense (AD) network—not simply isolating and suppressing or destroying specific weapons. This more thorough approach requires continuous and detailed intelligence collection and assessment.

c. Fire Support.

Fire support operations are conducted throughout the wide range of military operations. Fire support includes the delivery of conventional and smart munitions by
armed aircraft, land– and sea–based fire systems, and electronic warfare (EW) systems against ground targets. Operations often hinge on carefully planned integration of fires.

(2) Army aviation, as a maneuver force, contributes to fire support operations by acquiring targets; providing laser designation; adjusting indirect fires; and providing command and control to artillery units. Aviation units also contribute to fire support by engaging targets with close in fire support and conducting support by fire missions.

(3) The EH-60 Quickfix mission contributes to fire support by providing “electronic” fires in the form of signal jamming and electronic deception. FM 100–5 states “when developing the concept of operation, tactical commanders should consider EW assets the same as they do artillery.”

d. Air Defense.

(1) Across the wide range of military operations, commanders at all echelons are faced with an increasingly capable air and missile threat. Today’s widespread technological advances are challenging the maneuver commander in his execution of air and ground maneuver. All commanders can expect the enemy to violently contest the use of the airspace at any level of conflict with an extensive array of weapon systems.

(2) The air dimension of the battlefield must be effectively controlled by disrupting, degrading, or deceiving enemy air defenses. Suppression of enemy air defense (SEAD) prevents effective fires on friendly forces. Thus, Army aviation and tactical air assets can maneuver into the depth of the enemy to weaken his ability and will to fight.

(3) SEAD and JSEAD are major functional areas that affect the operations of all combined arms actions. Commanders at operational and tactical levels must coordinate and allocate a balance of resources (direct, indirect, electronic attack) to SEAD/JSEAD. Aviation commanders must be involved in recommending and developing SEAD and JSEAD priorities. As evidenced in Desert Storm, Army aviation not only may be a benefactor of SEAD/JSEAD operations, we also may be called upon to provide SEAD/JSEAD fires at the strategic, operational, and tactical levels of war.

(4) AD operations are performed by all members of the combined arms team; however, ground-based air defense artillery (ADA) units execute the bulk of the force protection mission. AD operations protect the force by preventing enemy aircraft, missiles, and remotely piloted and unmanned aerial vehicles (RPV/UAV) from locating and attacking friendly forces.

(5) Army aviation assists AD units by conducting theater missile defense (TMD) attack operations and contributing to short range air defense (SHORAD). Army aviation units conduct deep operations to attack threat missile components, such as launch platforms; command, control, communications, computers, and intelligence (C’I) nodes; missile stock infrastructure; and UAV launch facilities.
Army aviation can attack these targets when they are stationary or on the move. In certain environments, Army aviation can execute these missions without the benefit of sensor/eyes on target or a precise grid coordinate. Army aviation assets may also be called upon to intercept and destroy enemy helicopters and UAVs that pose a threat to friendly forces.

**e. Mobility, Countermobility, and Survivability.**

(1) Mobility operations preserve the freedom of maneuver. They include breaching enemy obstacles; increasing battlefield circulation; improving existing routes, or building new ones; providing bridge and raft support for crossing rivers; and identifying routes around contaminated areas.

(2) Army aviation contributes to the mobility and survivability of the force by overcoming both man–made and natural obstacles. Aerial reconnaissance elements identify obstacles in the path of advancing forces and search for bypass routes or safe crossing sites. This precise information saves valuable time and helps the force continue to move unimpeded.

(3) Aviation forces also provide security during obstacle-emplacement or crossing operations by rapidly moving troops and supplies to secure obstacle locations or crossing sites.

(4) Countermobility missions hinder enemy maneuver. Aerial delivered mines can be employed to emplace tactical minefield; reinforce existing obstacles; close lanes, gaps, and defiles; protect flanks; and deny the enemy AD sites. Aerial delivered minefield can also be employed for flank protection of advancing forces and for operating in concert with air/gound cavalry units on flank guard or screen missions.

(5) Survivability operations protect friendly forces from the effect of enemy weapons systems and from natural occurrences. Hardening of facilities and fortification of battle positions are active survivability measures. Deception, operational security (OPSEC), and dispersion can increase survivability. Nuclear, biological, and chemical (NBC) defense measures are also key survivability operations.

**f. Logistics.**

(1) Logistics entails the essential capabilities, functions, activities, and tasks necessary to sustain all elements of operating forces in theater at all levels of war.

(2) Aviation assists in providing basic sustainment operations for the Total Force. Aviation forces may support major maneuver forces, CS elements, or major CSS elements for the maneuver force.

(3) Aviation cargo and utility assets may perform force sustainment as well as support aviation–specific sustainment requirements. However, air movement is a
relatively inefficient means to transport heavy supplies and equipment and should be reserved for the support of major operations in which air movement is essential for success or in situations where emergency resupply is vital for mission accomplishment.

g. **Battle Command.**

(1) Battle command functions are performed through an arrangement of personnel, equipment, communications, and procedures employed by a commander to plan, direct, coordinate, and control forces and operations to accomplish a mission.

(2) Battle command is the art of battle decision making; leading; and motivating soldiers, and their organizations, into action to accomplish missions. Battle command consists of visualizing the current state and the desired end state for an operation. It includes deciding how to get from one state to the other at the least cost to the soldier.

(3) Battlefield visualization lies at the center of battle command. It is a continuous process that commences before an operation and continues through achievement of the desired conclusion to that operation.

(4) Visualization of the battlefield requires use of operational tools derived from science and technology. These operational tools provide the commander with near real-time information on the current situation. Situational awareness includes knowing the disposition of friendly forces, enemy forces, noncombatants, the environment, and the terrain.

(5) Army aviation—with its reconnaissance and security assets and SEMA platforms—can assist the force commander by providing accurate information in virtually all environmental conditions and throughout the full spectrum of conflict.

(6) Reliable communications are central to both battle command and battle control. Effective battle C2 requires reliable signal support systems to enable the commander to conduct operations at various tempos. Army aviation has the capability to provide highly mobile C2 command posts to commanders at the brigade, division, corps, and EAC levels. The communications suites in these C2 aircraft are compatible with the force’s command post mission.

(7) In addition, by using its ATS assets, aviation supports the A2C2 mission; it aids in the regulation, integration, and deconfliction of the flights of both Army aircraft and Joint Service aircraft as well as UAV.

**1-7. TRAINING AND READINESS CHALLENGES**

a. Global realities require that Army aviation be prepared for employment throughout the entire range of military operations. Several factors present unique challenges to commanders concerning the conduct of training and readiness:
(1) Long overseas deployments on short notice will be the standard.

(2) Threat forces will probably outnumber early deploying US forces and may have technological parity in some weapons systems.

(3) Early deploying forces must be mobile, lethal, survivable, and sustainable upon arrival.

(4) Integrating Army National Guard and Army Reserve forces into operations at all levels.

(5) Maintaining readiness while undergoing major force restructuring.

(6) Harnessing increased situational awareness provided by digitization.

(7) Maintaining troop morale/equipment in spite of wide range of missions.

(8) Conducting realistic training and deployments while complying with environmental regulations.

(9) Maintaining readiness with decreased home station OPTEMPO and increased frequency of deployments.

b. Seldom, if ever, will military operations be conducted by a single service. The Army will act as part of a joint or multinational force in future operations. Complementary contributions of every component add to the effectiveness of the Total Force. Aviation possesses inherent characteristics that guarantee it will play a significant, if not unique, role throughout the range of military operations (Figure 1-4).
1-8. FORCE PROJECTION

a. Force projection—a key element of power projection—is the ability to rapidly alert, mobilize, deploy, and operate anywhere in the world. As with Operations Just Cause and Desert Shield, force projection operations usually start as a crisis response; may require light, armored, or special operations forces; and may be either opposed or unopposed.

b. Aviation units deploying into a theater must be prepared for both offensive and defensive operations. If the threat is minor, it may be possible to enter directly into offensive operations as in Operation Just Cause. Against a formidable opponent, it may be necessary to assume a security mission or a defensive posture while forces are sufficiently built up to ensure success in offensive operations as in Operation Desert Storm.

c. Placing combat aviation forces in the early entry phase offers the ground commander a force that can provide reconnaissance, security, and C2 over great ranges, in depth, at night; and increase his security capability during the critical phase of force buildup.

d. The presence of armed helicopters in the initial force package may deter the threat or interrupt his decision cycle long enough for additional friendly forces to arrive. If the entry force must conduct forcible entry operations to obtain a lodgement or secure the force against an aggressive threat, attack helicopters can place powerful direct fire capability in the hands of the ground commander.

e. Assault and cargo helicopters can rapidly move personnel, equipment, and supplies across great distances rapidly expanding the AO. SEMA and other fixed-wing platforms efficiently perform a wide range of intratheater reconnaissance and passenger transport missions even further enhancing the flexibility and versatility of our force.

1-9. JOINT OPERATIONS

a. Joint operations are the integrated military activities of two or more service components—Army, Navy, Air Force, Marine Corps—of the US military.

b. US joint forces must overcome joint operational and logistical differences. Complementary contributions of every service’s forces add to the effectiveness of the Total Force.

c. Army aviation forces will continue to operate as part of the Army forces to a unified command, a specified command, or as part of a subordinate joint force.

d. The aviation force commander advises the joint task force commander on the capabilities, limitations, planning, and execution of aviation operations to support the joint contingency mission.

NOTE: Joint operations does not imply that planning must occur exclusively within high echelon staffs. Joint air attack team (JAAT) strategy evolved through direct team-level
interaction with US Air Force (USAF) pilots. Refinements in joint electronic combat tactics are occurring through direct coordination between Quickfix, at the platoon level, and the USAF squadron that conducts the airborne EW mission “Compass Call.” This type of creative interaction between service forces should be encouraged by all commanders.

1-10. MULTINATIONAL OPERATIONS

a. Multinational operations involve diplomatic–military actions between two or more agencies, with armed forces of two or more nations to achieve the strategic end state; alliances or coalitions can be formed to carry out these actions.

b. Army aviation must be prepared to conduct multinational operations with the air, land, and naval forces of allied governments.

c. Combatant commanders face numerous challenges when planning and conducting multinational operations. Each participant brings its own unique capabilities and limitations to the operation. Commanders must not only consider cultural and language differences, but also differences in equipment, doctrine, and logistics.

d. The key to success in multinational operations is matching capabilities with missions and aggressive liaison between forces.

e. Army aviation forces will normally operate as part of the US Army component during multinational operations.

f. The aviation commander will advise the Army component or allied force commander on the capabilities, limitations, planning, and execution of aviation operations.