

# **Close Air Support versus Close Combat Attack**

**A Monograph  
by  
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## **Abstract**

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This monograph is a qualitative look at the doctrinal differences between the command and control processes of close air support and close combat attack and whether or not those two processes can be combined to create a streamlined process. To get to an answer this monograph looks at how the Army and Air Force deliver fires within close proximity to troops from aircraft and what background historical and cultural factors shape current command and control processes. Historical context paints a complex picture of what major conflicts shaped the operating environment of the services and where differences stem from. Organizational and national culture derived from the history of and between the two services adds clarity to why the distinct command and control processes are separate. The synthesis of the history and culture provide insight into why the services manage the process differently.

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## **Introduction**

Since the origin of flight, the military has used aircraft to support military operations. This study focuses on one aspect of that support, the use of aerial delivered munitions in close proximity to soldiers on the ground to support freedom of maneuver. Close Air Support (CAS) and Close Combat Attack (CCA) exercise direct and indirect fires from aircraft to deliver required support and generate flexibility for maneuver operations, yet the procedures are different in the achievement of these similar effects.

### The Question

This monograph asks whether these two different procedures can be combined to create one simple procedure to ease the friction that commonly occurs on the battlefield. Answering this question demands asking what factors determine the procedures and what historical accounts shape the current procedures? Finally, are close combat attack procedures a product of the current operating environment or are they abstract enough to apply to other operating environments? The intent is to determine whether or not the procedures can be synthesized by taking the attributes of each and streamlining the process for the end user of these systems. The focus of both close air support and close combat attack procedures is to provide support to land-bound units when and where they need it most. A combination of current operational processes used by the Army and Air Force could ideally provide the capabilities close air support brings combined with the flexibility of close combat attack.

The similar effects achieved by the two methods of fire should drive a common process that would govern the execution of both. However, this is not the case. The determination of why the procedures are different is the root of the issue that will help to evaluate if they can be combined to streamline the effects. In addition to the why, the real problem is how to ensure flexibility is gained and maintained on the ground when the life of the United States soldier, sailor, airman, or marine is involved, how to keep them alive and how to allow them to accomplish their mission.

The purpose of this study is to explore the relationship between the CAS and CCA processes with respect to the maneuver of ground forces and investigate if one process can take the place of the two

currently in use. To arrive at an answer this study will reveal several key factors. The first revelation is whether streamlining the two processes into one would be more effective. The second is using historical accounts to determine what drove the processes apart and why the Army adopted the weaponization of rotary wing aircraft. The third revelation hinges on the difference in culture between the two branches of service. The fourth revelation dives deeply into doctrine to analyze the procedures, and how the Air Force and Army view fires from aircraft. Once this analysis is complete, the end state is to determine if the procedures can be combined, or should remain the same as current practice dictates.

### Method

This monograph approaches the question qualitatively by analyzing historical, cultural and current process aspects of both Army and Air Force branches of service concerning close air support and close combats attack. This analysis tells a story of whether or not and why the two services should combine the distinct operational processes for tactical control of aircraft. By tying the links of each of the topic sections together, this monograph uncovers an answer to the question.

### Significance

This study is significant because it provides key insight into what the current processes are and how or whether they can be improved. Military thought constantly evolves. This analysis is a step in the process of evolution that may create more environmental adaptability while operating through what Clausewitz has termed the “fog of war”. Research ideally expands the bank of knowledge and if a new process is uncovered, creates new or revises current knowledge. Practical application is the intent behind the research, to uncover a better way of doing business, or determine if the current ways should be sustained.

### Definition of Terms

To avoid confusion, a number of terms must be clarified within the scope of this study. In addition to defining the terms, this study will provide a detailed explanation of the terms and how the

terms are relevant. The definitions come from Joint doctrine unless otherwise noted. The key terms inherent to the study of this topic are as follows: close air support (CAS), close combat attack (CCA), close combat, flexibility, maneuver, joint terminal attack controller (JTAC), joint fires observer (JFO) and culture.

**Close Air Support (CAS):** “Close air support is air action by fixed-wing (FW) and rotary-wing (RW) aircraft against hostile targets that are in close proximity to friendly forces, and requires detailed integration of each air mission with fire and movement of those forces.”<sup>1</sup>

Close air support is indirect fires from aircraft near soldiers that requires detailed coordination to prevent fratricide or civilian casualties. The person calling for fire is responsible for the fire’s effects.

**Close Combat Attack (CCA):** “A hasty or deliberate attack by Army aircraft providing air-to-ground fires for friendly units engaged in close combat. Due to the close proximity of friendly forces, detailed integration is required.”<sup>2</sup>

The definition of close combat attack is similar to close air support; the main difference is the consideration of close combat attack by the Army as a direct fire weapon system in which the aircrew is responsible for their fires.

**Close Combat:** “Combat carried out with direct fire weapons, supported by indirect fire, air-delivered fires, and nonlethal engagement means. Close combat defeats or destroys enemy forces or seizes and retains ground.”<sup>3</sup>

Close combat is the premise that guides close combat attack. Close combat as related to aerial platforms is direct fire to enable ground forces to accomplish their mission.

**Flexibility:** The term flexibility is used rampantly throughout doctrine, however it is not adequately

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<sup>1</sup> Headquarters, Joint Staff, Joint Publication 1-02, *Department of Defense Dictionary of Military and Associated Terms* (Washington, DC: Government Printing Office, 2010), 54.

<sup>2</sup> Headquarters, Department of the Army, Field Manual 3-04.126, *Attack Reconnaissance Helicopter Operations* (Washington, DC: Government Printing Office, 2007), 1-4.

<sup>3</sup> Headquarters, Department of the Army, Field Manual 1-02 with change 1, *Operational Terms and Graphics* (Washington, DC: Government Printing Office, 2010), 1-32.



defined. A definition from the online Merriam-Webster dictionary encompasses the intent of the term: “Flexibility is characterized by a ready capability to adapt to new, different, or changing requirements.”<sup>4</sup>

Flexibility is the ability to adapt to new and changing conditions as they occur on the battlefield.

**Maneuver:** “1. A movement to place ships, aircraft, or land forces in a position of advantage over the enemy. 2. A tactical exercise carried out at sea, in the air, on the ground, or on a map in imitation of war. 3. The operation of a ship, aircraft, or vehicle, to cause it to perform desired movements. 4. Employment of forces in the operational area through movement in combination with fires to achieve a position of advantage in respect to the enemy.”<sup>5</sup>

Maneuver is essentially the ability of a force to position itself in a position of relative advantage with respect to the enemy. Central to both close air support and close combat attack is the contribution to maneuver that enables ground forces to have the freedom to operate within an area. Maneuver is an inherent characteristic of conflict that focuses on seizing the advantage from the enemy forces. Close air support and close combat attack are enablers that create or further develop an environment that facilitates the maneuver of ground forces by providing direct and indirect fires. Close air support and close combat attack fires are solely predicated on the coordination with ground forces.

**Joint Terminal Attack Controller (JTAC):** “A qualified (certified) service member who, from a forward position, directs the action of combat aircraft engaged in close air support and other offensive air operations. A qualified and current joint terminal attack controller will be recognized across the Department of Defense as capable and authorized to perform terminal attack control.”<sup>6</sup>

For the scope of the study, a joint terminal attack controller will be termed as an Airman who is specially trained and qualified to provide terminal guidance to aircraft for munitions release.

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<sup>4</sup> *Merriam-Webster Dictionary*, s.v. “Flexibility,” <http://www.merriam-webster.com/dictionary/flexible> (accessed March 13, 2012).

<sup>5</sup> JP 1-02, *Terms*, 208.

<sup>6</sup> *Ibid.*, 193.

**Joint Fires Observer (JFO):** “A trained Service member who can request, adjust, and control surface-to-surface fires, provide targeting information in support of Type 2 and 3 close air support terminal attack control, and perform autonomous terminal guidance operations.”<sup>7</sup>

Joint fires observers are Army personnel trained to call for CAS in order to mitigate risk. Joint fires observers are a measure to enable close air support while there is a lack of qualified joint terminal air controllers.

**Culture:** The Merriam-Webster dictionary defines culture, as it applies to the U.S. Army and U.S. Air Force, or more specifically organizational culture as “the set of shared attitudes, values, goals, and practices that characterizes an institution or organization.”<sup>8</sup>

Culture is the thread that binds an organization together into a coherent entity. Culture provides guiding principles within which an organization acts.

### Organization

This study is organized into three different chapters. Chapter One develops the historical context and determines when the two different attack procedures broke from each other. Chapter Two analyzes the cultural differences between the Army and the Air Force that drive the execution of the individual procedures. Chapter Three takes an in-depth look at the Army and Air Force doctrinal processes to determine the differences between the two.

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<sup>7</sup> Ibid., 183.

<sup>8</sup> *Merriam-Webster Dictionary*, Culture.

## History

Close air support finds its genesis in the trenches of World War I. The Army originally adopted the airplane for three purposes. These purposes originally established in Army Field Service Regulation of 1914 were as a method of signal, as adjustment to fire support, and finally as a means of reconnaissance and counter reconnaissance.<sup>9</sup> Pilots with initiative soon determined that the airplane was capable of doing much more than those three simple missions. The counter-reconnaissance role soon developed into a air superiority role, while the ability to influence the battlefield by attacking ground targets as well as air targets created the tenets of strategic bombing and close air support. From World War II to present the implementation of close air support has increased and decreased in importance relative to other missions of the Air Force.

This chapter focuses on the historical accounts of close air support and its use from World War II through present operations in Afghanistan and Iraq. Also studied is when and why the Army decided to expand the air to ground role to encompass helicopters. As equipment became more modernized and the realization that airpower could influence the close fight dawned on Army leaders, they pushed for more control over aircraft to support troops in contact. This became a central argument as the Air Force fought for independence. The Air Force in turn focused on what the strategic capabilities air forces could bring to bear against the enemy that would eliminate the need for close air support. Airpower theorists like Mitchell believed the dominance of the air could preclude the necessity to even have ground forces while practical experience in war have shown that typically to be false.

### Interwar: World War I-World War II

The debate between the services during the interwar period between World War I and World War II focused on the co-equal service of the Army Air Corps. Ground commanders traditionally wanted to

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<sup>9</sup> Headquarters, Department of War, *Field Service Regulations: United States Army* (Washington, DC: Government Printing Office, 1914), 20.

maintain control of tactical air.<sup>10</sup> To the Army, the threat of losing control of the Army Air Force overshadowed the role of aviation in the close air support role and distracted the development of suitable doctrine with which to perform close air support. Brigadier General Billy Mitchell was a proponent of a co-equal force between the Army, Navy and Air Force, and also focused on the ability of air power to strike deep within an enemy country potentially deterring the threat altogether.<sup>11</sup> Limited training performed during the 1941 Louisiana Maneuvers preceding WWII often emphasized the strategic capability of aircraft versus close air support to the infantryman. During those games the first doctrinal publication addressing air to ground operations was published. Field Manual (FM) 31-35 was the product of a distracted Army focused on maintaining control of the Air Corps versus air to ground integration.

Field Manual (FM) 31-35, *Aviation in Support of Ground Forces* was the first doctrinal manual created jointly that governed close air support. The issue later to be found with FM 31-35 was that it viewed close air support as transitory, close air support engaged targets that were enroute to a strategic objective and not solely as a support measure to troops.<sup>12</sup> FM 31-35 was a product of the Army Air Corps wanting to maintain control of its assets and therefore focused more on the organization that governed the usage of aircraft versus the actual procedures for conducting close air support. The procedures did not come about until Training Circular 37 was published in June of 1942.<sup>13</sup> In effect FM 31-35 created a long process to achieve close air support through an Air Support Command composed of all airmen that viewed the aircraft and the ability to mass its firepower on a strategic target as more important than the Soldier in contact. The contents of FM 31-35 maintained a very centralized Air Force structure that reduced the timeliness of platforms capable of close air support. Simply put, the Air Forces were focusing

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<sup>10</sup> Headquarters, Department of the Air Force, *History of United States Air Force Close Air Support Command And Control* (Washington, DC: Government Printing Office, 1973), iii.

<sup>11</sup> William Mitchell, *Winged Defense: the Development and Possibilities of Modern Air Power-Economic and Military* (1925; repr., Tuscaloosa, AL: Fire Ant Books, 2010), 134.

<sup>12</sup> Mortensen, Daniel R. "A Pattern For Joint Operations: World War II Close Air Support North Africa." *Historical Analysis Series* (1987), 20.

<sup>13</sup> Headquarters, Department of the Air Force, *History of United States Air Force Close Air Support Command and Control*, 8.

on a strategic mission that included air superiority and bombing with close air support as an additional capability. The Air Force intent behind mass and the focus on air superiority and bombing was to prevent the need for ground combat. Centralized control was an effort to maintain the ability to mass assets onto targets that could deter future action. FM 31-35 and the integration of air and ground were put to the test beginning in North Africa.

### World War II

Close air support first saw action in North Africa during World War II. Operation Torch and the North Africa campaign were significant operations that led to fixing a broken process created during the interwar period in FM 31-35. Operation Torch was a three-pronged attack on the North African coast that split up air assets between three different task forces. Due to a lack of air to ground successes under the Army Task Force commanders, General Eisenhower decided airpower needed to be centralized under one commander who controlled the application of air power and the apportionment of assets. This structure gave an aviator, Major General Spaatz, the ability to employ airpower in accordance with doctrine. Unfortunately the allies learned hard lessons during the Battle of Kasserine Pass regarding the effectiveness of FM 31-35 and airpower doctrine and the void of not having processes in place to conduct close air support.

The failure at Kasserine Pass drove the restructuring of close air support under Air Chief Marshall Sir Arthur Tedder. Eisenhower placed Tedder in command of all Mediterranean Air Forces. Under Tedder, MG Spaatz broke his command down into mission type commands, giving command of the tactical air force to Air Marshal Sir Arthur Coningham.<sup>14</sup> Coningham, basing his tactics on previous Royal Air Force successes in North Africa, divided his forces into mission type organizations, fighters and fighter-bombers.<sup>15</sup> The fighter-bomber organization incorporated the close air support mission. In addition to changing the organization, Coningham elevated the Army-Air plan to the same level of

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<sup>14</sup> Ibid., 10.

<sup>15</sup> Mortensen, "A Pattern for Joint Operations," 75.

importance as the ground plan.<sup>16</sup> Because of the overall failure to integrate ground and air, the Army and Army Air Corps realized the necessity of new doctrine to replace FM 31-35.

This new doctrine was the result of a joint study directed by Eisenhower based on operations in Tunisia, and the Kasserine Pass. FM 100-20 succeeded FM 31-35 as the capstone document on air and ground integration. Another thing FM 100-20 did was create a doctrinal co-equal environment between the Army and Air Force; in other words, it was a declaration of Army Air Corps independence.<sup>17</sup> With the publishing of FM 100-20, the air ground integration process was streamlined effectively; now it was to be put to the test throughout the remainder of World War II.

With the base document of FM 100-20 ensuring flexibility in the application of airpower the relationship between air and ground seemed to improve drastically. Mistakes and rivalry remained, but with improved relations, close air support continued to be a learning process throughout the rest of World War II as it required battle leaders to “develop an entirely new method of air war.”<sup>18</sup> Major General Pete Quesada and his IXth Tactical Air Command pioneered the learning process yielding many valuable tactics, techniques and procedures. This learning process incorporated the use of aircraft control parties (Rover Joe), aerial forward air controllers, the incorporation of medium bomber platforms, air support parties, and the inclusion of aircraft on standby to provide close air support, planned and unplanned. Quesada’s efforts and those of the IXth Tactical Air Command disrupted a large part of the German forces allowing the American ground component freedom of maneuver.

During World War II, air to ground operations and relations improved drastically until they were near extensions of each other. Unfortunately, the hard learned lessons of WWII were soon forgotten as

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<sup>16</sup> Ibid., 75.

<sup>17</sup> Scott A. Haskins, “A Historical Look at Close Air Support” (master's thesis, Command and General Staff College, 2003), 13.

<sup>18</sup> Thomas Alexander Hughes, *Over Lord: General Pete Quesada and the Triumph of Tactical Air Power in World War II* (New York: Free Press, 1995), 9.

another interwar period embraced the United States and the battlefield shifted to one of interservice budgets.

### Interwar: World War II-Korea

Post World War II the Air Force began to shift its focus. FM 31-35 and the creation of the Tactical Air Command (TAC) in 1946 paved the way for a close relationship to support the Army with close air support.<sup>19</sup> As the Air Force continued to demobilize post WWII and with the advent of a nuclear-armed Air Force, the focus shifted nearly solely to the development of strategic bombing capability in concert with Italian General Giulio Douhet's theories of breaking the population's will to fight.<sup>20</sup> At the end of WWII, General Spaatz intended to form only two major commands within the Air Force, the Continental Air Force and the Strategic Strike Force. Prior to the Air Force separation from the Army, General Eisenhower forced the creation of the Tactical Air Command (TAC), which encompassed the close air support mission. General Spaatz agreed to this and the three functional commands within the Air Force became the Strategic Air Command (SAC), the Tactical Air Command (TAC), and the Air Defense Command.<sup>21</sup> As Eisenhower and Spaatz moved on and General Vandenberg became the Chief of Staff of the Air Force, the focus of the Air Force once again changed to strategic bombing. The Air Force saw itself as the only necessary branch of service due to the strategic attack capability, which led to intense budget rivalries.

To help govern the budgets of each branch of service Secretary of Defense James Forrestal published the document, *Functions of the Armed Forces and the Joint Chiefs of Staff*, more commonly known as the Key West Agreement. This document broadly dictated the responsibilities and funding for each branch of service. The Army was responsible for all "land combat and service forces and such

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<sup>19</sup> John J. McGrath, *Fire For Effect: Field Artillery and Close Air Support in the Us Army* (Fort Leavenworth, KS: Combat Studies Institute Press, 2010), 90-92.

<sup>20</sup> Mike Worden, *Rise of the Fighter Generals: The Problem of Air Force Leadership 1945-1982* (Maxwell Air Force Base, AL: Air University Press, 1998), 32.

<sup>21</sup> Dr. James Williams, *A History of Army Aviation: From Its Beginnings to the War On Terror* (Lincoln, NE: iUniverse, Inc., 2005), 48.

aviation and water transport as may be organic therein.”<sup>22</sup> The Army developed organic aviation in 1942 in the form of light aircraft primarily used for artillery observation and helicopters for personnel recovery and medical evacuation. Even with the Army having their hands in aviation, the Air Force which became its own branch of service on 18 September 1947, according to the Key West Agreement became responsible for operations in the air including close combat support to the Army.<sup>23</sup> At the time, the Air Force was focused on the strategic bombing capability. The Air Force was disinterested in the concept of close air support and with the Korean War it became evident the hard learned lessons of WWII were gone from a tactical air command that only had 150 personnel and no aircraft.<sup>24</sup>

### Korea

Forgotten tactics, techniques and procedures (TTP) that were effective during WWII made FM 100-20 the only fallback measure. Focus shifted to tactical air force functions since the limited war in Korea drove the nuclear option on which the strategic air command centered, off the table for the time being. Learning points from the Korean War focused on four main points to integrate the Army and Air Force operations, interdiction versus close air support, centralization versus decentralization, joint training, and platforms for close air support.<sup>25</sup>

At the beginning of the Korean War, the role of the ground force was defensive in nature, however as the Allies went on the offensive air operations began focusing on interdiction missions. The Army wanted to maintain close air support because of the tangible effects it had on the front lines. The Air Force wanted to maintain a balance of interdiction and close air support.<sup>26</sup>

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<sup>22</sup> James Forrestal, *Functions of the Armed Forces and the Joint Chiefs of Staff*, 21 APR 1948, 7.

<sup>23</sup> *Ibid.*, 11.

<sup>24</sup> Williams, *A History of Army Aviation*, 49.

<sup>25</sup> McGrath, *Fire for Effect*, 100-101.

<sup>26</sup> Hasken, “A Historical Look at Close Air Support,” 24.



Whether to centralize or decentralize was another key debate between the services. Centralization of airpower was a key tenet of Air Force doctrine that allowed focusing air assets. The Army wanted air assets decentralized to provide responsiveness for close air support missions to directly support ground forces. The Army likened close air support to artillery, which only required coordination at battalion level while small units had to go through multiple levels to get air support. Multiple coordination levels, little Army representation in the Joint Operations Center (JOC), a lack of proper equipment and training and fluid situations made centrally controlled close air support difficult to use.<sup>27</sup>

The third learning point was the execution of joint training. During the interwar period leading to Korea, the lack of focus on close air support did not lend itself to interservice cooperation. This lack of interservice training created difficulties in the initial execution of close air support procedures.

The final learning point was platform centric. Leading into Korea the strategic air command focused fighter aircraft on protecting bombers, which created a gap in capabilities and requirements. Those fighters, designated multi-role and tasked with providing close air support during the Korean War were not suitable because their basic design was for air to air combat. With the realization of the deficiency the Air Force brought back propeller driven F-51 Mustangs into service for a limited time to provide close air support until they could make adaptations to F-80's, F-84's and F-86's for the role. Benefits to the propeller driven aircraft were that they could provide longer loiter time, carry more ordinance and stage within the Korean Peninsula.

Upon completion of the Korean War, President Eisenhower's "New Look" policy once again shifted the balance of power back to the nuclear deterrent and thus the strategic air command. This combined with the Army's perceived inefficiencies in air to ground operations caused the Army to look more in depth at their own organic aviation. Reacting to the Korean War experience, the Army expanded the development of its own organic aircraft to fulfill the close air support role and to provide the responsiveness required.

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<sup>27</sup> Headquarters Department of the Army, *A Short History of Close Air Support Issues* (Fort Belvoir, VA: Combat Development Command Institute of Special Studies, 1968), 40.

### Interwar: Korea-Vietnam

The challenges associated with close air support posed by the Korean War ultimately led the Army to branch into extensive experimentation with organic aviation. Strategic bombing remained the primary focus of the Air Force with close air support relegated to a secondary position. According to the 1948 Key West Agreement and the 1952 Pace-Finletter Agreement, the Air Force was clearly the proponent of close air support; however the Pace-Finletter Agreement expanded the Army's role concerning helicopters.<sup>28</sup> The Army took this newfound freedom and under Army Chief of Staff General Lawton Collins (1949-1953), pushed for expanded Army aviation roles. The Army, to ensure flexibility and responsiveness, began developing several organizational concepts and experimenting with many platforms to meet their requirements with little regard for stepping into Air Force territory.

United States Marine Corps application of helicopter mobility during the Korean War appealed to the Army; however, at the time all of the Army's aircraft were purchased through the Air Force. The Air Force viewed the Army was taking offensive action to the air which was the Air Force domain and disapproved of the Army's intent to pursue the airmobile concept.<sup>29</sup> After the war though, the strategic focus of the Air Force drew attention away from the Army acquisition of the helicopter for other than transportation roles. The Army in fact was intending to turn the helicopter into a maneuver asset and along with the airmobile concept, continued to test armed aircraft to expand their tactical application on the battlefield. Major General James Gavin was a proponent of using helicopters in a reconnaissance role and his line of thought re-initiated debate between the services concerning the roles of Army aircraft. Major General Gavin also appointed the first general officer to represent the Army aviation branch, Brigadier General Hamilton Howze. General Matthew Ridgeway, who replaced General Collins as Chief

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<sup>28</sup> McGrath, *Fire for Effect*, 100-101.

<sup>29</sup> Williams, *A History of Army Aviation*, 68

of Staff of the Army who also advocated rotary winged aviation as a means of dispersal in the event of nuclear attack and to consolidate forces for offensives.<sup>30</sup>

Army flag officer interest in rotary wing aviation led to a series of boards in the early 1960's. The first of these boards was the 1960 Rogers board which ultimately recommended a simple modern fleet to reduce the logistical tail and recommended "air-fighting units."<sup>31</sup> The second board was the Howze board of 1962. This board was a product of the new Kennedy administration and Secretary of Defense Robert McNamara's interest in Army aviation doctrine, organization and equipment.<sup>32</sup> The Howze board recommended the full-scale creation of the air assault division and air cavalry brigades. The roles of these entities were in direct conflict with the pre-established roles of Army and Air Force aircraft. The Air Force responded with the 1962 Disosway board that disputed the Army's encroaching aircraft roles, however also justified the Army's dissatisfaction and proposed increasing the tactical air command role.

With arguments and political sentiments stacking against the Air Force, three factors influenced an increased tactical Air Force role. President Kennedy's "flexible response" plan diverted some of the Air Force's focus from the strategic nuclear role to the tactical role.<sup>33</sup> The results of the various boards that determined a need for close air support gained importance as their results shifted political Department of Defense response to favor advances in close air support. Finally, the threat of lost funding to the Army development of close air support platforms swayed the Air Force to focus more on the close air support role. These three major contributors led to joint training in 1962, the development of doctrine to maintain centralized planning, but decentralize execution and forward air control and air liaison programs embedded within Army organizations to facilitate close air support.

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<sup>30</sup> Ibid., 69.

<sup>31</sup> Ibid., 91.

<sup>32</sup> McGrath, *Fire for Effect*, 108.

<sup>33</sup> Ian Horwood Dr., *Interservice Rivalry and Airpower in the Vietnam War* (Fort Leavenworth, KS: Combat Studies Institute Press, 2006), 122.

Secretary of Defense McNamara overrode the Air Force objection and allowed the Army to form the 11<sup>th</sup> Aviation Regiment to continue testing concepts. In order to maintain research and development, the Army appeased the Air Force by discontinuing their larger fixed wing programs that encroached too much on Air Force territory. These decisions led to the 1966 Johnson-McConnell Agreement that made the Army the proponent for rotary winged platforms and gave the Army the latitude to employ them as necessary.<sup>34</sup> The Army was already testing these concepts in the Vietnam War.

### Vietnam

As the Vietnam War escalated in 1965, both the Army and the Air Force had learned valuable lessons. The Army was wrapping its arms around what they termed the close fire support concept revolving around helicopters but with forays into the fixed wing realm too.<sup>35</sup> The Air Force exercised the initiative in procedures and shifted focus to a non-nuclear mission that a limited war entailed. Political will among other factors did not allow a strategic bombing campaign into North Vietnam; the Kennedy administration in 1961 was focused on a “war of national liberation” which focused on tactical airpower.<sup>36</sup> The conditions were slowly set for mixed reviews on the joint operations executed in Vietnam. The evolutions made in Vietnam were consistent with constant progress within both Air Force and Army operations.

The first advancement was in the realm of command and control of close air support platforms. In 1963, the Air Force began incorporating forward air controllers and air liaison officers within Army organizations. In 1965, Military Assistance Command Vietnam (MAC-V) increased that role by making a Joint Air to Ground Operating System (JAGOS) with parallel Air Force and Army structures and incorporating tactical air control parties (TACP) down to the battalion level. This system greatly facilitated training and execution of close air support missions. This Air Force initiated system maintained

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<sup>34</sup> Ibid., 121.

<sup>35</sup> Ibid., 119.

<sup>36</sup> Ibid., 85

centralized control of Air Force platforms while decentralizing the execution and making close air support more responsive to the end user. The Army wanted decentralized control, but this system worked for both services.<sup>37</sup>

The Army also developed procedures for their own organic assets. While the Army considered aviation assets holistically as maneuver systems, the UH-1 gunships were treated as a fires asset. The fire support officer made calls for fire from Army aircraft on the fire support net. This method worked, however the pilots did not always receive an updated situation on the fires net, which led to a lack of situational awareness and occasional fratricide incidents.

In addition to command and control, the Air Force took large steps in the development of platforms specifically tailored for close air support. The Air Force purchased assets such as the OV-10 Bronco that were capable of long loiter times to control and conduct support, as well as adopting Naval aircraft such as the A-1 Skyraider, the A-7D Corsair, and the F-4 Phantom platforms purpose built for close air support. The recognition of the need for purpose-built aircraft strayed from the previous mentality of multi-role aircraft and ultimately led to the development in 1970 of the A-10. In addition to purpose-built aircraft, the Air Force realized there was potential in arming transport platforms as aerial gunships.

Army aircraft advancements during Vietnam progressed from armed UH-1 Huey gunships through armed reconnaissance aircraft to ultimately the development of the AH-1 Cobra. The Army intended these platforms as a gap filling measure while developing the AH-56 Cheyenne. Due to monetary issues and the development of the A-10, fielding of the Cheyenne never occurred and the AH-1 Cobra remained the Army close air support platform.

#### Interwar: Vietnam-Desert Shield

Following Vietnam there were four major lessons learned to further the development of close air support. The Air Force and Army had seemingly finally found an acceptable medium to progress from

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<sup>37</sup> Ibid., 85.

while both pursued close air support roles. The lessons learned included employment of purpose-built aircraft, viability of rotary wing close air support, coordination and decentralized execution, and operating jointly.

During the interwar period, both services determined the need for platforms that were centered on the execution of close air support. The Air Force specifically developed the A-10 to provide close air support and anti-armor capability. The Army's AH-1 Cobra was becoming unsuitable to the Cold War battlefield so development of the AH-64 Apache began in 1973 designed to fill the Army close air support role and provide an anti-armor capability. Both services focused on the anti-armor capability of the AH-64, which the Air Force agreed the Army needed, and that capability complimented Air Force close air support.<sup>38</sup> While Air Force close air support remained centrally controlled, the Army was able to decentralize control of rotary winged attack aviation.

Vietnam also validated the rotary wing option as an attack platform as long as Air Force air interdiction or close air support suppressed enemy air defenses. When the AH-64 began production in 1983, General Don Starry's Air Land Battle concept incorporated the AH-64 in the deep attack role against Russian second echelon elements in conjunction with deeper Air Force strikes. The Air Land Battle concept was the first true joint battle concept and was a precursor to the 1986 Goldwater-Nichols Act, which enforced the joint nature of warfare. Air Land Battle doctrine brought the Army and Air Force together as a joint force on the battlefield.<sup>39</sup>

The Air Land Battle concept was a primer to ensure Air Force and Army cooperation. A study performed in 1987 focused specifically on how to further integrate the Army and Air Force. This product, entitled "The 31 Initiatives" identified the twenty-fourth initiative as close air support. According to Richard Davis,

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<sup>38</sup> Williams, *A History of Army Aviation*, 210.

<sup>39</sup> Headquarters, Department of the Army, Field Manual 100-5, *Operations* (Washington, DC: Government Printing Office, 1986), 9.

Initiative #24 reaffirmed the Air Force's mission of providing fixed-wing CAS to the Army. It required no implementation or development. That this mission required reaffirmation spoke to the traditional distrust the two services felt toward one another on this issue. Yet, its inclusion in a document advocating a comprehensive integration of the doctrine and means with which the Army and Air Force intended to conduct the next battle acknowledged its basic necessity to both. If the two services followed the intent of this initiative, with the Army trying not to acquire or agitate for its own fixed wing CAS aircraft and the Air Force not only giving to its CAS mission the resources it requires but insisting that its CAS forces display genuine and effective cooperation and coordination with the ground units they support then this initiative may turn out to be the most far reaching of all.<sup>40</sup>

The Chiefs of Staff of the Army and the Air Force intended this initiative to ensure the Army and Air Force maintained a relationship of mutual support.

### Desert Storm

Desert Storm was a demonstration of airpower through significant amounts of interdiction and upon initiation of the ground campaign, significant amounts of planned close air support. On January 18, 1993, the air campaign against Iraq began. For forty-three days before the ground war began, Air Force air interdiction decimated Iraqi forces to around fifty percent combat effectiveness. On February 24, the ground campaign initiated and the Air Force generated more than 3000 sorties for combined interdiction and close air support to destroy Iraqi targets.<sup>41</sup> Because of the rapid ground advance, weather and visibility, close air support was limited in execution but available for alternate interdiction targets.<sup>42</sup> As a result, Air Force close air support played little role during the campaign.<sup>43</sup> Army attack aviation primarily executed deep attack missions and escort for air assaults. Desert Storm was a validation of the joint Air Land Battle concept.

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<sup>40</sup> Richard G. Davis, *The 31 Initiatives* (Washington DC: Office of Air Force History, 1987), 62.

<sup>41</sup> Thomas A. Keaney and Eliot A. Cohen, *Gulf War Airpower Survey Summary Report* (Washington, DC: Government Printing Office, 1993), 23.

<sup>42</sup> Ibid., 23-24

<sup>43</sup> McGrath, *Fire for Effect*, 145.

### Interwar: Desert Storm-Global War of Terror

During the interwar period between Desert Storm and the Global War on Terror there was little controversy between the Army and Air Force. Success regarding mutual support and abilities of both services was evident. The effect the air war had on the Iraqi Army destroyed the bulk of its capabilities and created near decisive victory for the Air Force in light of the limited role of close air support.<sup>44</sup> The successes reinforced a positive relationship between the Army and Air Force concerning joint operations.

The major impact to come of Desert Storm was a revolution in warfare focused on technology. The focus shifted from platform to the capabilities of the systems on the platform.<sup>45</sup> The system of systems approach enabled sensors to provide up to date data on enemy actions to enable friendly action.<sup>46</sup> These systems enabled precision-guided munitions employed in Iraq to focus targeting. As Eliot Cohen declared, “What can be seen by high-tech sensors can be hit, and what can be hit will be destroyed.”<sup>47</sup>

### Global War on Terror

As opposed to Desert Storm, the Global War on Terror incorporated large amounts of close air support in planning and execution. Operations in Afghanistan focused nearly solely on close air support because of the lack of a strategic role against the threat.<sup>48</sup> In Iraq, the air campaign began simultaneously as the ground attack and quickly established air supremacy, then was able to focus on close air support.<sup>49</sup> In the Global War On Terror, the role of close air support was key to enabling ground operations and quickly became the focus of air support.

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<sup>44</sup> Ibid., 146.

<sup>45</sup> Eliot A. Cohen, “A Revolution in Warfare,” *Foreign Affairs* 75: 2 (Mar/Apr 1996): 45.

<sup>46</sup> Ibid., 40

<sup>47</sup> Ibid., 45

<sup>48</sup> Steven G. Olive, “Abdicating Close Air Support: How Interservice Rivalry Affects Roles and Missions.” (Strategic Research Project: United States Army War College, 2007), 12.

<sup>49</sup> McGrath, *Fire For Effect*, 151.



### Afghanistan

After the September 11, 2001 attacks, the Army quickly brought the Air Force into the picture. Initial attacks were strategic in nature, but with the introduction of special operations forces those attacks quickly became close air support which combined with the Northern Alliance effectively toppled the Al Qaeda and Taliban regimes. This “Afghan Model” established the capability to bring conventional forces into the fight.<sup>50</sup>

With the introduction of conventional forces the first full-scale Army fight, Operation Anaconda, digressed into a unitary action until late in the planning process. The Army involved the Air Force just days before the Operation Anaconda was to initiate and as a result, the Air Force was unable to bring the full might of airpower to bear against enemy forces. Operation Anaconda created several lessons learned. First, it re-emphasized the requirement to operate jointly and incorporate all applicable elements into the planning process. Second was improved communications between senior Army and Air Force leaders. Third was the requirement of tactical air control parties placed within the Army to control Air Force close air support.<sup>51</sup> These lessons helped to prepare the joint forces for the road ahead in Iraq.

Army attack aviation support was also a key player in Afghanistan. Rotary winged aircraft capabilities enabled them to gain enhanced situational awareness and strike targets that were more difficult for faster moving aircraft.<sup>52</sup> In addition to situational awareness, Army attack platforms did not require the use of tactical air control parties to clear fires and were able to act as a maneuver element and operate in close combat. Another primary difference between the Air Force and Army close air support was the weapon systems on the AH-64 allowed for engagement closer to friendly troops.

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<sup>50</sup> Ibid., 147.

<sup>51</sup> Steven G. Olive, “Abdicating Close Air Support,” 12.

<sup>52</sup> Williams, *A History of Army Aviation*, 381.

Initial experiences in Afghanistan in 2002 led the Army to train on and adopt the practice of close combat attack.<sup>53</sup> This evolution in training and doctrine enabled the aircrews to provide support closer to friendly troops than prior deep attack doctrine had allowed. In Afghanistan, the Army slowly phased out Cold War battlefield practices, but would attempt them again in Iraq.

### Iraq

Lessons from Afghanistan helped to shape the employment of aviation in Iraq when combat operations began on 20 March 2003. Joint operations had finally after many years reached a successful high ground. Integration of Air Force and Army aircraft performing traditional roles of air interdiction and deep attack as well as close air support and the new technique of close combat attack was thorough.

During Operation Iraqi Freedom Air Force close air support was very effective and responsive to ground commander's requirements. Close air support was only one of five primary missions the Air Force executed and all of them were performed well.<sup>54</sup> Air Force close air support consistently supported the ground commander's intent and often times enabled them to continue with their mission.<sup>55</sup> Support to ground operations created no issues between the services.<sup>56</sup>

Army close combat attack missions in Iraq were also successful. The Army tested deep attack doctrine on multiple occasions such as 11<sup>th</sup> Aviation Regiment's initial missions into Iraq and found it to be a dangerous mission in a non-permissive environment riddled with enemy air defense. Aircraft that were maintained in close combat were found to better support the ground maneuver commander's intent and better able to shape the environment.<sup>57</sup>

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<sup>53</sup> Ibid., 385.

<sup>54</sup> Gregory Fontenot, E.J. Degen, David Tohn, *On Point – The United States Army in Operation Iraqi Freedom*, (Fort Leavenworth, KS; Center for Army Lessons Learned, 2004), 405.

<sup>55</sup> Ibid., 405.

<sup>56</sup> McGrath, *Fire for Effect*, 151.

<sup>57</sup> Ibid., 153.

## Conclusion

From World War I to the present, military aviation has had a very controversial past, one that has finally culminated in a successful relationship between services. Flight created the opportunity to operate in the third dimension and military innovators were quick to seize the advantages that dimension offered. Aircraft roles evolved from reconnaissance and communications to performing interdiction to destroy critical infrastructure in hopes of attaining a decisive victory.

The Army and Air Force rivalry stemmed from the perceptions that the Air Force was a purely strategic force capable of ending a war before ground force commitment while the Army viewed the Air Force in a supporting role to ground operations. This rivalry centered on the application of close air support, a topic that has had to be re-learned time and again. The Army and Air Force forgot the lessons of World War II going into the limited Korean War where the Air Force strategic application was not feasible. Because of Korea, the Army decided the support it received was not adequate and began lobbying for its own organic attack platforms. The conditions going into Vietnam saw the same conditions where the strategic focus reemerged and created the requirement to learn close air support in yet another limited war. Vietnam saw the first application of Army close air support, but also a major increase in the level of support from the Air Force including the development of the first fixed wing aircraft design based on close air support requirements. The period between Vietnam and Desert Storm saw the development of doctrine and policy that focused on the joint aspect and fighting as a team versus as individual services. The rapid advance of ground forces and weather precluded much of the use of close air support during Desert Storm. Desert Storm validated combined arms maneuver under Air Land battle doctrine. Transitioning to the Global War on Terror, operations in Afghanistan reiterated the lessons of the importance of integrated planning and the development of Army close combat attack. Lessons learned transitioned into Iraq, which was overall a success story in Army and Air Force close air support integration.

## Culture

Throughout the storied past, the Army and Air Force have developed and maintained unique cultures that have created rivalry between the services. The cultures the two branches of service have developed are of consequence when discussing the two different processes of close air support and close combat attack. This section focuses on service culture. Understanding the culture of the Army and the Air Force sheds light on why the close air support and close combat attack models are executed differently.

According to Geert Hofstede's *Cultures and Organizations: Software of the Mind*, culture is not an inherent trait, but rather one that is learned throughout the course of interacting with one's social environment and experiences.<sup>58</sup> Hofstede breaks culture down into four distinct parts, symbols, heroes, rituals and values, and likens them to the peel of an onion.<sup>59</sup> The first three parts are distinguishable to the outside in the form of practices. Symbols are the most fluid of the parts, able to be shaped and changed as time proceeds and are therefore placed on the outside of the onion peel. Symbols are visible outward signs that distinguish a particular culture in the form of "words, gestures, pictures, or objects that carry a particular meaning."<sup>60</sup> In the next layer are heroes, people that have or continue to shape the environment by possessing virtues that are desirable to the particular culture. The next layer is ritual or the activities that a culture deems socially essential to perform within the specific culture. All of the preceding three parts are manifested in what Hofstede terms as practices. These practices are observable manifestations of what those outside of the culture see that have specific meaning within the culture.<sup>61</sup> At the core of the onion are values. These are the ingrained responses that are deemed socially acceptable within the culture and are taught at early stages in life that tend to be more permanent than the other three layers.

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<sup>58</sup> Geert Hofstede, Gert Jan Hofstede, and Michael Minkov, *Cultures and Organizations: Software of the Mind: Intercultural Cooperation and Its Importance for Survival* (New York: McGraw-Hill, 2010), 5.

<sup>59</sup> Ibid., 8.

<sup>60</sup> Ibid., 8.

<sup>61</sup> Ibid., 9.

To holistically look at the layers of the onion together it is important to understand how national culture and organizational culture relate. According to Hofstede, the practices previously mentioned combine to form the identity of the institution, which then creates and shapes itself within the boundaries of the service values.<sup>62</sup> National culture is defined by Hofstede is the “collective programming of the mind” that comes of growing up within a nation.<sup>63</sup> All of this is tied to the history of the service branch. Stephen Ott describes organizational culture as:

Organizational culture is the culture that exists in an organization, something akin to societal culture. It is a socially constructed, unseen, and unobservable force behind organizational activities. It is a social energy that moves organization members to act. It is a unifying theme that provides meaning, direction, and mobilization for organization members. It functions as an organizational control mechanism, informally approving or prohibiting behaviors.<sup>64</sup>

National culture drives the organizational culture of the Army and Air Force service branches.

### Air Force Culture

Air Force culture began in the early 1900's with the advent of the airplane and the creation of the mindset that aviation “gives the modern battlefield a third dimension.”<sup>65</sup> This third dimension created the ability to strike near unopposed at the enemy center of gravity.<sup>66</sup> This mindset created the early Air Force culture that has endured. Air Force culture is examined through the lens of Hofstede's model to try to determine what Air Force culture is.

What symbols shape Air Force culture? Since symbols are “words, gestures, pictures, or objects” that are visible both within and outside of an organization, what symbolizes the Air Force and what it does? The first picture that enters the mind when thinking of the Air Force is probably some sort of

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<sup>62</sup> Ibid., 22.

<sup>63</sup> Ibid., 515.

<sup>64</sup> J. Steven Ott, *The Organizational Culture Perspective* (Chicago, IL: Dorsey Press, 1989), 50.

<sup>65</sup> Headquarters, Department of the Air Force, Air Force Doctrine Document 3-03, *Counterland Operations*, (Washington, DC: Government Printing Office, 2011), 1.

<sup>66</sup> Carl von Clausewitz, *On War*, trans, and ed. Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1989), 595.

aircraft, cutting edge technology that allows pilots wearing flight suits to drop bombs or shoot missiles anywhere in the world at a moment's notice. According to a RAND study written by Carl Builder, the Air Force "could be said to worship at the altar of technology."<sup>67</sup> These are not what Hofstede terms as superficial, but they are symbols nonetheless that represent the Air Force.

The people that wield this technology and that pioneered early Army Air Corps and Air Force aviation, or those that do something heroic stand out as heroes. Hofstede terms heroes as those "who possess characteristics that are highly prized in a culture and thus serve as models for behavior," people like Billy Mitchell, Hap Arnold, Tooe Spaatz to name a few.<sup>68</sup> Mitchell promoted the strategic nature of the aircraft and contended that the technology of the aircraft allowed for an entirely new way of waging war from the third dimension.<sup>69</sup> Arnold and Spaatz also had a history of nonconformity to traditional ways of thinking although, they went about it more subtly than Mitchell.<sup>70</sup> Air Force heroes seem to focus on actions and innovation as core traits.

Rituals are the next layer. Hofstede terms rituals as "collective activities that are technically superfluous to reach desired ends but that, within a culture, are considered socially essential."<sup>71</sup> Taken at face value, rituals could be things like rendering a salute to a senior officer, a formal event, or something informal like getting a beer after a flight. Straying from the superfluous, could rituals be flying, or performing one of the key missions of the Air Force? Could a ritual be the discourse between two aircraft in the air as they strive to push their technologically advanced machines to positions of dominance?

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<sup>67</sup> Carl H. Builder, *The Masks of War: American Military Styles in Strategy and Analysis* (Baltimore, MD: The Johns Hopkins University Press, 1989), 19.

<sup>68</sup> Carolyn Chu, Brandon Dues, and Laura L. Miller, *Cultural Themes in Messages from Top Air Force Leaders, 2005-2008* (Santa Monica, CA: RAND Corporation, 2010), 16.

<sup>69</sup> Lynne E. Vermillion, "Understanding Air Force Culture," *Strategic Research Project* (Maxwell Air Force Base, AL: Air War College) 1996, 28.

<sup>70</sup> *Ibid.*, 25.

<sup>71</sup> Hofstede, *Cultures and Organizations*, 9.

Finally, at the core of the Air Force are values the institution tries to instill in its individual members. Values according to Hofstede are the “broad tendencies to prefer certain states of affairs over others.”<sup>72</sup> According the Air Force “Little Blue Book,” the core values are integrity first, service before self, and excellence in all we do.<sup>73</sup> These core values are individual values the Air Force wants their members to demonstrate for the benefit of the institution. Do these values form the core of how the Air Force institution operates? At the personal level, likely so, but at the institution level using the Hofstede model, the enduring values seem to be strategy, technology and independence.<sup>74</sup>

### Army Culture

Over 200 years of service has shaped Army culture into what it is today. The Army is a ground centric force and thus focused on defeating the enemy on within that realm. Hofstede’s model is the guideline applied to the Army culture to determine what the Army culture is.

Army symbols are different from Air Force symbols because the different branches of service conduct missions in different ways. The Army focus on ground operations likely brings images of groups of infantrymen or formations of tanks and artillery engaging the enemy in close operations. “Army Strong” may come to mind. The Army focuses on people because according to Builder individual service to the people, the nation and its institutions are the Army’s altar.<sup>75</sup> The people make up the strength of the Army, form the backbone of the service, and enable the organization to perform.<sup>76</sup>

People that stand out in the Army’s past represent the heroes of the organization, people who have led formations to victory on the battlefield, like Washington, Grant and Patton. Others include heroic

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<sup>72</sup> Ibid.

<sup>73</sup> United States Air Force Core Values, 1 January 1997, I.

<sup>74</sup> Builder, *The Masks of War*, 67, 19 and 28.

<sup>75</sup> Ibid., 20

<sup>76</sup> Ibid., 30

actions that place the organization before oneself, like Audie Murphy, and Alvin York. Army heroes tend to focus on action and leadership as core traits.

What are the Army rituals that drive culture? As mentioned in the Air Force section, things like saluting, or formal events are by Hofstede's definition rituals. Also in keeping with the Air Force section, could actions like training and conducting combined arms maneuver, collective training events, and working as a holistic organization to accomplish the strategic mission construe a ritual? These events bind the organization together and reinforce the culture of professionalism.

As with the Air Force values, the Army values are individual traits that are necessary for soldiers to demonstrate and live by, but are they the underlying organizational values that drive the Army as an institution to perform? The Army values include loyalty, duty, respect, selfless service, honor, integrity and personal courage, which are considered by ADRP 6-22 necessary for all Army members.<sup>77</sup> These are personal values that make the organization better, but not necessarily the underlying values of the overall organization. Builder portrays the Army core values as being a loyal servant to the country, the keeper of the ground that other services must have, and yet still dependent on other services to project to the fight.<sup>78</sup>

The guiding values that shape the way the Army and Air Force organizations act are rooted deep within each organization's history. Air Force history focuses the Air Force on the decisive ability of the technologically advanced aircraft to strike anywhere in the world with little lead time and the ability to create large amounts of damage. Army history shows a force dedicated to the United States that is solely responsible for the ground that all others must act from. History and culture shape the way the two organizations perform their respective missions.

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<sup>77</sup> Headquarters, Department of the Army, Doctrinal Reference Publication 6-22, *Army Leadership* (Washington, DC: Government Printing Office, 2012), 3-1.

<sup>78</sup> Builder, *The Masks of War*, 20,30,34.



## Military Doctrine Governing CAS and CCA

This chapter examines current doctrine governing the execution of close air support and close combat attack. These two terms according to doctrine have the same definition yet different methods of execution. The purpose of this chapter is to determine what other than platform is different about the two procedures. The approach to this question is through a thorough examination of doctrine focusing on command and control of assets.

### The CAS Model

Close air support is the Air Force model for commanding and controlling Air Force assets delivering munitions within close proximity to soldiers. This model is the set of steps that enable commanders to implement close air support at the proper time and place to achieve the desired effect on the battlefield. This model incorporates the Air Force processes and Army elements that compose the theater air control system, and the Army air ground system (TACS/AAGS).

Air Force assets dedicated to the close air support mission depend on how scarce resources are allocated and apportioned. Allocation and apportionment ties into the commander's operational art and how they want to synchronize their assets to conduct tactical actions with respect to time, space and purpose.<sup>79</sup> Allocation is how aircraft are applied against global competing requirements.<sup>80</sup> Apportionment is the starting point for planning operations and how aircraft are utilized within a combatant commander's area of responsibility.<sup>81</sup> Once aircraft have been apportioned to perform the close air support role, they are managed through the close air support command and control process.

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<sup>79</sup> Headquarters, Department of the Army, Army Doctrinal Publication 3-0, *Unified Land Operations* (Washington, DC: Government Printing Office, 2011), 9.

<sup>80</sup> Headquarters, Joint Staff, Joint Publication 1-02, *Department of Defense Dictionary of Military and Associated Terms* (Washington, DC: Government Printing Office, 2010), 17.

<sup>81</sup> *Ibid.*, 23.

The system in place to command and control the process is the Theater Air Control System (TACS). The theater air control system is the direct tool that “provides the COMAFFOR the capability to plan and conduct joint air operations.”<sup>82</sup> Within the theater air control system, there are a series of agencies that facilitate the command and control of assets. The agencies responsible for the Air Force command and control process consist of the Air Operations Center (AOC), the Air Component Coordination Element (ACCE), the Wing Operations Center (WOC), airborne C2 elements, the Control and Reporting Center (CRC), the Air Support Operations Center (ASOC) and the Tactical Air Control Party (TACP). Each of these agencies works in concert to facilitate close air support platforms being in the right place at the right time.

The Air Force Air Operations Center (AOC) is the senior agency for controlling close air support assets. The air operations center coordinates Air Force requests and allocates missions through the Air Tasking Order (ATO).<sup>83</sup> The air tasking order is the document that provides mission specific details to close air support aircraft.<sup>84</sup> The air operation center is located with the Commander Air Force Forces (COMAFFOR) and is the agency that directly provides overall situational awareness of their forces. The air operations center is the highest level where the Air Force theater air control system and the Army air ground system (AAGS) meet. The system “integrates both Army component aviation support and air support with Army ground maneuver.”<sup>85</sup>

The battlefield coordination detachment (BCD) is the Army element that resides within the air operations center. The purpose of the battlefield coordination detachment is to interface with the air

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<sup>82</sup> Headquarters, Joint Staff, Joint Publication 3-09.3, *Joint Tactics, Techniques, and Procedures for Close Air Support* (Washington, DC: Government Printing Office, 2009), II-4.

<sup>83</sup> Ibid., II-4.

<sup>84</sup> Ibid., II-4.

<sup>85</sup> Ibid., II-7.

operations center and as the Army representative to plan, coordinate and deconflict air operations.<sup>86</sup> The battlefield coordination detachment supports Army ground maneuver.

The air component coordination element is the reciprocal of the battlefield coordination detachment. This coordination element is not required, however if one is stood up they will be located on the joint force land component commander's (JFLCC) staff. The air component coordination element is responsible for "exchanging current intelligence, operational data, and support requirements and coordinating the integration of Air Force forces (AFFOR) requirements for airspace control measures (ACM), joint fire support control measures (FSCM), and close air support."<sup>87</sup> This element is the senior Air Force representative on the Army staff for the Air Force.

The wing operation center is the next element in the chain. They are responsible for command and control, and interpreting the air tasking order and accomplish close air support missions as directed.<sup>88</sup> Within the Army air ground system, the Ground Liaison Officer (GLO) is located at the wing operations center to coordinate with the battlefield coordination detachment.

Two elements allow the Commander Air Force Forces to decentralize execution of close air support missions. The airborne command and control elements include the Airborne Warning and Control System (AWACS) and the Joint Surveillance Target Attack Radar (JSTARS), which allow for control, surveillance and ground situation updates.<sup>89</sup> The control and reporting center is the other decentralizing element and is a ground based radar that links multiple systems together to provide control and surveillance for close air support aircraft.<sup>90</sup>

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<sup>86</sup> Headquarters, Department of the Army, Field Manual 100-13, *Battlefield Coordination Detachment* (Washington, DC: Government Printing Office, 1996), 1-1.

<sup>87</sup> Joint Publication 3-09.3, *Joint Tactics, Techniques, and Procedures for Close Air Support*, II-4.

<sup>88</sup> *Ibid.*, II-6.

<sup>89</sup> *Ibid.*, II-6.

<sup>90</sup> *Ibid.*, II-6.

The next step in the command and control process is the air support operations center, typically located at the Army tactical headquarters. The ASOC is a controlling agency that “coordinates and directs air support for Army or joint force land component operations.”<sup>91</sup> The air support operations center is immediately subordinate to the air operations center and has the ability to control all allocated close air support aircraft if delegated the authority to do so by the commander Air Force forces. The air support operations center integrates with the Army tactical operations center to “coordinate the requirements for close air support employment within the unit’s area of operations.”<sup>92</sup> Because of the growing demand for liaison, habitual alignment of air support operations centers is projected to each of the ten active duty divisions. Once fully operationally they will have the capability to develop the teamwork needed to maintain combat readiness.<sup>93</sup> At the corps level and below is a Tactical Air Control Party (TACP) organized under the Army Fires Cell (FC) to coordinate airspace and “synchronize and integrate CAS” with the broader mission.<sup>94</sup>

Currently at echelons lower than corps down to brigade level, the tactical air control party coordinates and advises the ground commander on close air support applications. Ongoing doctrinal revisions may place a tactical air control party down to the maneuver battalion level.<sup>95</sup> The tactical air control party consists of an Air Liaison Officer (ALO) and a projected two Joint Terminal Attack Controllers (JTAC). The air liaison officer is typically an “aeronautically rated officer and is an expert in the capabilities and limitations of air operations.”<sup>96</sup> The joint terminal attack controller is certified to control close air support platforms and specializes in integrating close air support with ground

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<sup>91</sup> Ibid., II-6.

<sup>92</sup> Ibid., II-7.

<sup>93</sup> Memorandum of Agreement between the United States Army and the United States Air Force for Army/Air Force Liaison Support, 31 March 2011, 4.

<sup>94</sup> Joint Publication 3-09.3, *Joint Tactics, Techniques, and Procedures for Close Air Support*, II-7.

<sup>95</sup> Memorandum of Agreement between the United States Army and the United States Air Force for Army/Air Force Liaison Support, 4.

<sup>96</sup> JP 3-09.3, *Joint Tactics, Techniques, and Procedures for Close Air Support*, II-9.

maneuver.<sup>97</sup> The Battalion Air Liaison Officer (BALO) is billeted to facilitate the planning process at the battalion level. In order to provide close air support at the company level the Air Force intends to provide a Terminal Attack Control Team consisting of a joint terminal attack controller and an apprentice in a ready pool available for deployment.<sup>98</sup>

Joint terminal attack controllers execute three different types of control. Control is considered type one if the joint tactical air controller has both the target and attacking aircraft visually acquired.<sup>99</sup> Type two control is less restrictive and is used when the joint terminal attack controller requires control, but is only able to maintain visual contact with either target or attacking aircraft.<sup>100</sup> Type three control does not require visual confirmation of either target or aircraft, but must be coordinated through the land owning unit.<sup>101</sup>

In the absence of a joint terminal attack controller at the company level the Army and Air Force initiated the JFO Memorandum of Agreement. The purpose of the agreement was to allow non-JTAC certified personnel to perform some joint terminal air controller duties while limiting risk “in extremis” conditions.<sup>102</sup> Joint fires observers do not replace joint tactical air controllers but provide an opportunity to facilitate close air support at lower risk than the performance of close air support in an emergency. Joint fires observers are authorized to conduct type II and III control and provide terminal guidance to

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<sup>97</sup> Ibid., II-9.

<sup>98</sup> Memorandum of Agreement between the United States Army and the United States Air Force for Army/Air Force Liaison Support,, 4.

<sup>99</sup> Headquarters, Department of the Army, Field Manual 3-09.32, *Multi-Service Tactics, Techniques, and Procedures for the Joint Application of Firepower* (Washington, DC: Government Printing Office, 2007), 43.

<sup>100</sup> Field Manual 3-09.32, *Multi-Service Tactics, Techniques, and Procedures for the Joint Application of Firepower*, 43.

<sup>101</sup> Ibid., 43.

<sup>102</sup> Memorandum of Agreement between the U.S. Army, Deputy Chief of Staff, G-3/5/7 and the U.S. Air Force, Deputy Chief of Staff, Air and Space operations and the United States Special Operations Command, Director Operations Support Group for Joint Fires Observer, 14 November 2005, 2.

close air support platforms, but not terminal attack control.<sup>103</sup> Terminal attack control is the ability to grant weapons release clearance to maneuvering aircraft.<sup>104</sup> Joint fires observers provide an additional capability to use operational assets in a tactical environment.

With the basis for close air support command and control established, how is close air support incorporated into missions? Close air support can be either preplanned or immediate. Preplanned close air support is either scheduled or on-call, but a plan is in place for its execution. The other type of close air support is that which is unanticipated and as a result immediate as in the case of troops in contact (TIC). According to JP 3-09.3, “Preplanned requests may be filled with either scheduled or on-call air missions while most immediate requests are filled by diverting preplanned missions or with on-call missions.”<sup>105</sup>

The Army headquarters intent on incorporating close air support into their mission must conduct detailed mission planning to synchronize it. Preplanned close air support is an exercise of operational art in that it synchronizes close air support within the larger framework of the mission. It enables a ground commander to emplace effective fires to facilitate maneuver. Preplanned close air support originates within a tactical air control team or party and is forwarded to the air support operations center or senior Army headquarters. From the senior Army headquarters, the request travels through the battlefield coordination detachment to the air operations center where the decision is made. The decision is then sent from the air operations center the reverse route back to the requestor.<sup>106</sup> Key to this process is the request arriving at the air operations center within the typical 72-96 hour air tasking order (ATO) planning process so the request is vetted through the different stages of the air tasking order cycle if approved.<sup>107</sup>

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<sup>103</sup> FM 3-09.32, *Multi-Service Tactics, Techniques, and Procedures for the Joint Application of Firepower*, 45.

<sup>104</sup> Joint Publication 1-02, *Department of Defense Dictionary of Military and Associated Terms*, 334.

<sup>105</sup> Joint Publication 3-09.3, *Joint Tactics, Techniques, and Procedures for Close Air Support*, III-31.

<sup>106</sup> *Ibid.*, III-33.

<sup>107</sup> Headquarters, Joint Staff, Joint Publication 3-30, *Command and Control for Joint Air Operations* (Washington, DC: Government Printing Office, 2010), III-19

As much detail as possible is necessary, but updates are possible as targets develop. Detail is important because close air support aircrews fly missions based on the air tasking order.

Immediate requests are those that occur within the air tasking order cycle.<sup>108</sup> Immediate requests are a tactical response to a tactical situation that may hinder the operational artist's application of operational art by taking assets involved in a plan. Immediate requests are however necessary to ensure survival of personnel, intent and equipment. Immediate requests follow much the same process as preplanned requests but may consume already dedicated assets.

### The CCA Model

The Army model for applying organic air assets is somewhat different from the Air Force model. Instead of the parallel process of the TAACS/AAGS the Army process is unitary because all active duty divisions have organic combat aviation brigades (CAB) they can assign missions to. The Army's air is by nature of their relationship to the supported unit already more integrated into the planning process. The planning process also depends on type of relationship combat aviation brigades have with other Army units. In a general support relationship, the combat aviation brigade supports the division as a whole. In a direct support relationship the combat aviation brigade is able to support other units directly or break up into aviation task forces and provide smaller elements to support Army units. This section details both of the planning processes defined by the relationships, but is limited to applying CAB assets within the division construct.

It is important to define the relationship since that is what predicates the process used. Since close combat attack is an Army application of organic air assets, Army doctrine is the primary source of information. The first portion of this section focuses on the general support (GS) of the combat aviation brigade to the division. According to FM 1-02 general support is "that support which is given to the supported force as a whole and not to any particular subdivision thereof."<sup>109</sup> In other words, the combat

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<sup>108</sup> JP 3-09.3. *Joint Tactics, Techniques, and Procedures for Close Air Support*, III-33.

<sup>109</sup> Headquarters, Department of the Army, Field Manual 1-02, *Operational Terms and Graphics*,

aviation brigade supports the entire division it is task organized under. The second portion focuses on the direct support (DS) relationship of a combat aviation brigade or aviation task force to another element. In a direct support relationship the supporting unit is authorized to “answer directly to the supported force’s request for assistance.”<sup>110</sup> Army Doctrinal Reference Publication (ADRP) 5-0.1 breaks the relationship down more clearly. In a direct support relationship the supported unit establishes the priorities; in the case of an aviation task force supporting a brigade combat team, the brigade combat team establishes priorities.<sup>111</sup> The parent unit in a general support relationship establishes the priorities; in the case of a combat aviation brigade, the parent unit is the division.<sup>112</sup>

### General Support

Within the division construct there are two formal levels that staff requests for attack aircraft. The requesting element forwards their request to the Brigade Aviation Element (BAE) organic to the BCT. The brigade aviation element then submits the refined request to the division G3 operations aviation section. The G3 aviation then sends the processed request to the combat aviation brigade for execution. Once approved, the combat aviation brigade forwards the mission to the appropriate battalion or task force headquarters that coordinates directly with the requesting unit through aviation liaison teams to ensure the intent of the operation is accomplished. The timeline of this process is depends on the unit, but typically occurs within a 48-72 hour timeframe.

The brigade aviation element is a critical link in ensuring the transmission of information from requestor to the requested asset. Located within the brigade combat team the brigade aviation element “is a planning and coordination cell whose major function is to incorporate aviation into the ground

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(Washington, DC: Government Printing Office, 2010), 1-88.

<sup>110</sup> Ibid., 1-61.

<sup>111</sup> Headquarters, Department of the Army, Army Tactics, Techniques and Procedures 5-0.1, *Commander and Staff Officer Guide* (Washington, DC: Government Printing Office, 2011), A-4.

<sup>112</sup> Ibid.



commander's scheme of maneuver," much like the role of the tactical air control party.<sup>113</sup> While the brigade aviation element is in place to facilitate planning and ensure commander's intent is followed, "The BAE does not take the place of aviation TF involvement in the planning process."<sup>114</sup> The brigade aviation element consists of a brigade aviation officer (BAO), a plans officer, a tactical operations officer (TACOPS), an operations sergeant and specialist. Combined, this cell integrates aviation and conducts lateral coordination with the tactical air control party and fires cell (FC) to ensure airspace is managed appropriately.<sup>115</sup> The brigade aviation element is key to ensuring a process that involves aviation within the ground maneuver planning.

In the general support role, the G3 operations aviation cell coordinates and synchronizes brigade combat team requests.<sup>116</sup> Requests are deconflicted to ensure assets are available and the missions fall within the parameters of the division commander's intent.

Aviation liaison teams are the final element that incorporates the combat aviation brigade into the missioning process. The aviation liaison teams are key to achieving the fidelity required that allows aircrews to execute detailed plans. Aviation liaison teams are an aviation battalion or task force asset that liaises directly with the unit they are supporting to both directly involve aviation in the planning process and to ensure aviation is fully aware of the plan.<sup>117</sup> Typically, liaison teams are located within the brigade combat team tactical operations center, but can move to subordinate units to ensure the necessary link is maintained for planning. Aviation liaison teams monitor and update both the brigade combat team elements and the aviation elements of the most current situation to allow both elements to build flexibility

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<sup>113</sup> Headquarters, Department of the Army, Training Circular 1-400, *Brigade Aviation Element Handbook*, (Washington, DC: Government Printing Office, 2006), 1-1.

<sup>114</sup> Headquarters, Department of the Army, Field Manual 3-04.111, *Aviation Brigades* (Washington, DC: Government Printing, 2007), 2-13.

<sup>115</sup> Headquarters, Department of the Army, Training Circular 1-400, *Brigade Aviation Element Handbook*, 1-2.

<sup>116</sup> Headquarters, Department of the Army, Field Manual Interim 3-91, *Division Operations* (Washington, DC: Government Printing Office, 2006), 2-7.

<sup>117</sup> TC 1-400, *Brigade Aviation Element Handbook*, 1-4.

into the plan and to facilitate understanding of the ground commander's intent to promote adaptability and fulfill support requirements. These elements allow Army aviation to maintain a direct link within the planning process for air missions.

### Direct Support

Based on the relationship the direct support model enables an even more direct linkage between the aviation task force or battalion and the supported brigade combat team. The brigade aviation element has a direct connection to the aviation operations officer and tasks the aviation unit directly. The aviation element conducts missions solely to accomplish the intent of the brigade combat team commander. This model enables involvement even down to the individual aircrew level to ensure the support required is provided.

### Comparison

The processes of conducting close air support and close combat attack are different, but ultimately have the same effect of providing necessary air support to the ground commander. All of the steps lead to the same conclusion, which ultimately is to place the proper munitions in the correct place at the appropriate time. The primary differences are ultimately the level required to incorporate the close air support and close combat attack platforms and the amount of involvement the liaisons and crewmembers have in the planning process to facilitate execution.

The close air support and close combat attack models require different levels of coordination. The joint nature of the theater air control system and the Army air ground system require more moving pieces and therefore more forethought to apply low density close air support. Requests must initially be approved through the air operations center, or joint force air component commander level, unless the joint force air component commander gives approval to manage close air support assets to the air support operations center that is located at the corps or division level. This level of approval may be linked historically and culturally to the strategic nature of the Air Force. Decisive Air Force capabilities required high levels of approval. Approved missions are still placed on the air tasking order to provide the mission

set to the aircrews. This inherent control reduces flexibility somewhat on a constantly changing battlefield that looking back to the history chapter is valuable to the Army. In response, the Army created the divisional combat aviation brigade that reduces the level of coordination to apply assets. Because of the organic nature of the combat aviation brigade, the highest level of approval is the division headquarters in the general support role, or the brigade in the direct support role. The time to request is reduced in the Army model, but changes can be made to mission sets within the constructs of both processes.

The level of involvement in planning is another area of difference. Both models require detailed coordination to execute their respective procedures; however crewmembers and liaison teams with direct access to crewmembers increases the level of detailed planning the Army conducts. The Air Force flies close air support missions based on information on the air tasking order that travels through the coordination channels to the air operations center; once there, the crews fly based on what is on the air tasking order. The Army, depending on the model, directly coordinates with the supported unit to ensure clarity of intent and mission. Organic assets make this process simpler to execute. Once on scene though close air support and close combat attack aircrews are fully able to respond to a changing environment.

## Conclusion

This monograph demonstrates the long history of the Air Force and Army both working well together and travelling over a rocky path. Army believes that all efforts ultimately serve to enable the ground force conflict with the Air Force's view of itself as a strategic force with the ability to limit ground force involvement and potential loss of American lives.<sup>118</sup> The bottom line within this relationship is that the two services must continue to work together to fight and win wars involving the United States. The history and culture of each branch of service have shaped the way they perform close air support and close combat attack. The root question of this monograph is whether or not those two processes can be combined to streamline the process to make them easier for the soldier on the ground to use finite close air support and close combat attack assets. The simple answer to the question is yes, the two processes can be combined. The implications of combining the processes would involve one of the branches of service releasing some or all control of close combat attack and close air support assets to the other branch, control they have both fought hard to keep. One option would be to remain the same, another model driven by the Army would likely drive the relationship and ownership of close air support platforms lower, while a third model driven by the Air Force would likely drive the relationship and ownership of close combat attack platforms higher.

The "Army model" would likely adjust control of close air support aircraft by placing the tasking authority at either the Army corps or division level similar to the close combat attack model. This would likely drive an operational control (OPCON) relationship between the tasking Army authority and the tasked Air Force assets. The air support operations center would become an intermediary between the Army headquarters and the wing operations center that conducts the mission and would leave the air operations center and joint force air component commander out of the loop. This relationship is a direct challenge to Air Force autonomy the Air Force struggled for over forty years to overcome. Another challenge would be to overcome the use of strategic aircraft in the close air support role. A benefit to this

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<sup>118</sup> Builder, *The Masks of War*, 67.

model would be an increased liaison with requesting agents and the ability to plan for the pilots of close air support sorties.

The “Air Force model” would likely have the opposite effect. It would likely push Army divisional aircraft up to a higher level to integrate them into the overall theater air plan. Divisional close combat attack assets would become operationally controlled by the air operations center and requests for these assets would have to be pushed through the battlefield coordination detachment for fulfillment and to be placed on the air tasking order. This model would disrupt the flexibility the Army sought during the Vietnam War and take control and integrated planning away from Army commanders.

Control is the major factor that prevents a combination of these two processes. To change the processes to provide additional capability for one service limits the amount of control that service has on its assets. The two models currently in use have served well in the past several years and both provide enough flexibility and capability to accomplish both close air support and close combat attack. The “CAS model” is flexible in application within the air tasking order cycle and allows for bottom up refinement of the mission through layers of cells. The “CCA model” allows for continuous refinement and allows for an integrated planning process down to the crew level.

Each process drives a different picture. The “CAS model” involves integrating tactical assets into an operational plan synchronized within the greater air and ground picture. The Army design involves a tactical asset within a tactical plan synchronized within the greater ground picture. The focus of the two services is different. The nature and limitations of the assets involved limits the scope of the Army viewpoint whereas the Air Force is broader. Air Force assets have the capability to go much further than Army assets. The planning processes should remain the way they are to enable two different mission sets.

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