



**AIR UNIVERSITY**

**Lt Gen Ned Almond, USA**  
*A Ground Commander's Conflicting  
View with Airmen over CAS  
Doctrine and Employment*

**MICHAEL LEWIS, MAJOR, USAF**  
School of Advanced Airpower Studies

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## ***Abstract***

This study analyzes the historical debate between the United States Army (USA) and United States Air Force over the issue of close air support (CAS). Specifically, this study examines four CAS subissues from World War I through the Korean War: priorities in the employment of airpower, the ownership and apportionment of CAS assets, the most effective CAS command and control (C<sup>2</sup>) system, and the debate over whether to procure a single or multipurpose CAS aircraft. A fundamental explanation given for Army and Air Force differences in philosophy on CAS is the historical difference in military objectives (decisive points). This difference has shaped air force, force structure and air asset employment, and significantly contributed to the Army-Air Force CAS debate.

The case study herein analyzes the CAS philosophy of Lt Gen Edward Mallory Almond, USA. The author reasoned that General Almond's diverse background in Army, Navy, and Air Force theory and employment would make him a logical candidate for a study. The main focus is on CAS employment and issues during the Korean War. General Almond served in the two world wars and commanded the X Corps during the Korean War. His personal papers stored at the US Army Military History Institute, Carlisle Barracks, Pennsylvania, offer unique insights into a ground commander's views on CAS.

While his opinions are much more complex than this abstract can do justice to, General Almond's CAS thoughts evolved to the following: (1) Air priorities should first be, air superiority, CAS second, and then interdiction and strategic attack; (2) The Army should maintain operational control of sufficient (meaning "lots of") CAS air assets and practice decentralized control (down to the division or corps level); (3) The services should build and adequately staff joint, well-integrated CAS C<sup>2</sup> systems to support the CAS mission, and (4) The Air Force should build, with Army inputs, a single purpose CAS aircraft. While readers may or may not agree with all of General Almond's ideas, they will find good points of discussion. The general's thoughts on CAS C<sup>2</sup> systems are of particular note and importance to today's military. The author closes by reiterating the principal issues, relevant findings and conclusions, and the implications of his analysis on current issues.

## *About the Author*

Maj Michael Lewis served six years as an Air Force enlisted member where he attained the rank of staff sergeant. He attended the University of Nebraska at Omaha on an Air Force Reserve Officer Training Corps scholarship. While a cadet, his awards were the Commandant of Cadets and Professor of Aerospace Studies. Major Lewis was commissioned as a second lieutenant in May 1984. He maintained software for and flew as battlestaff support on the Strategic Air Command Airborne Command Post. Other previous assignments include master flight commander and communications skills curriculum manager at Squadron Officer School (SOS); chief, Space Systems Test Division, Space and Warning Systems Center, Peterson Air Force Base, Colorado; and deputy commander in US Space Command Space Control Center, Cheyenne Mountain. Major Lewis holds a bachelor of general studies degree in computer science, a master's in public administration from the University of Oklahoma; and a master's in systems management from the School of Logistics and Acquisition Management, Air Force Institute of Technology. He is also a member of Pi Alpha Alpha, the national honor society for public administration, and Sigma Iota Epsilon, the national honorary and professional management fraternity. Major Lewis is a graduate of NCO Leadership School, SOS, Advanced Communications Officer Training, Air Command and Staff College (ACSC), and School of Advanced Airpower Studies. At SOS he was awarded the Commandant's Trophy and received the Commandant's Award for Excellence from ACSC. In June 1996, Major Lewis was assigned to J6 (Joint Command and Control) in the Pentagon as an action officer.

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I thank God for all the blessings and hope I can help make a positive contribution to the Air Force, my country, and the world.

## **Chapter 1**

# **Introduction**

### **Statement of Research Questions**

This study examines the roots and historical friction between the Air Force and Army concerning the issue of the effective employment of airpower for close air support (CAS) of ground forces. This study looks at the CAS issue from World War I through the Korean War, but it emphasizes the period during the Korean conflict which significantly shaped the recurring Air Force/Army CAS controversy. A study of this period, determines how Lt Gen Edward "Ned" Mallory Almond, United States Army (USA), directly affected or indirectly influenced the Air Force/Army CAS debate. This study discusses the evolution of General Almond's views on CAS before World War II up through his retirement in January 1953. However, the bulk of the focus targets General Almond's thoughts and actions during the Korean War. This study examines whether General Almond's views changed over time and any discrepancies between his stated views on the best use of CAS and his actual employment of air assets for CAS. Noteworthy are his CAS policy and actual CAS employment while performing as X Corps commander during the Korean conflict.

Specifically, the following research questions are addressed.

- (1) Assuming at least some tension over the CAS issue, what differences have existed between the US military services regarding CAS doctrine (World War I through Korea)?
- (2) What were General Almond's views on CAS and how did they evolve?
- (3) Were his views consistent with mainstream Army views on CAS?
- (4) How did these views on CAS shape future CAS doctrine debate and development?
- (5) Why is understanding this history of Air Force and Army friction important to today's CAS relationship between the two services?

### **Background and Significance of the Problem**

Since the United States began using airpower for military purposes, there has been a basic difference of opinion as to its proper employment. At times this rift has divided the services into two different factions, the Army, Navy, and Marines (decentralized control, decentralized execution), and the Air Force, or early Army air arm (centralized control, decentralized execution). Like a family, the Air Force and its sister services have debated ownership, control, and methods of employing limited resources. In my opinion, nowhere

has this difference in philosophy been more apparent than with regard to CAS. This is not to say that the US military services have not eventually found a way to employ airpower to win wars. For just as family members make compromises and band together in times of crisis, the services have ultimately worked together to employ airpower to achieve military advantage. One must also understand there are times when family members actively debate the best use of limited resources. In these cases, animosity may best describe the relations the Air Force has had with the other services (particularly the Army and Marines) over CAS. Because the Air Force has historically placed the priority of CAS behind air superiority, strategic attack, and air interdiction, ground commanders have frequently complained about the lack of responsiveness of air support. Concurrently, air commanders have emphasized the need for unity of command through centralized control for efficient use of air assets.

General Almond not only employed air assets in close battle (as a division commander in Italy and as X Corps commander in Korea) but was also influenced by and influenced other service members regarding CAS for a generation as a student at the Army War College (1933-34), the Air Corps Tactical School (1938-39), and Naval War College (1939-40), and as commandant of the Army War College (July 1951-December 1952).

Similar differences of opinion still exist between the services today. A historical analysis of the CAS controversy is significant because of its subsequent impact on such issues as joint doctrine and weapon system research and development. Current joint operations doctrine and joint force air component commander (JFACC) doctrine evolved from years of discussion on how to best employ air assets, to include air's role in CAS. Debate over the acquisition of single- or multiple-use aircraft for CAS is still relevant for future force structure planning.

### **Limitations of the Study**

A multitude of writings on CAS already exist. To thoroughly cover the entire US military experience with CAS would require producing volumes of history. Therefore, the purpose of this study is to limit the focus of CAS to a few key subissues. Tracing these important subissues over time should prove informative in understanding where some of the major differences have occurred, and still remain, among the services. This thesis limits the study of CAS subissues to the following areas where the Air Force and Army have had differing philosophies: (1) priorities in the employment of airpower; (2) the ownership and apportionment of CAS assets; (3) the most effective CAS command and control (C<sup>2</sup>) system; and (4) the debate over whether to procure a single or multipurpose aircraft for CAS. Additionally, I limit the analysis of CAS to the working definition presented in the next section of this chapter. While earlier definitions of CAS included reconnaissance and airlift, the author focuses on CAS as providing aerial fire support to ground forces. Within each subissue the author also discusses how several contextual

(environmental) factors affected or may have affected a subissue. These factors include defense funding, joint doctrine and training, actual CAS employment, enemy combat capabilities (air and ground threats), combat environment (terrain, weather, etc.), formal organizations, and available technology. While this study necessitates referring to the Navy and Marine Corps, the focus is on the CAS relationship between the Air Force and the Army.

### **Definitions and Assumptions**

CAS, or portions of it, have been labeled differently throughout airpower history, that is, support aviation, attack aviation, tactical air, and so forth. (See appendix A, "Close Air Support Definitions," for historical and current CAS definitions.) I have defined Close Air Support to include airpower's contribution of firepower and to exclude airpower's reconnaissance and lift capabilities. The following working definition of CAS describes the relevant aspects of these terms to this study on close air support; all subsequent use of the term *CAS* in this study will fit my definition—close air support, or CAS, is the use of air assets to provide aerial firepower to friendly ground forces in close proximity to enemy forces. This support requires close coordination between friendly ground and air forces.

### **Preview of the Argument**

The previously mentioned CAS subissues and the environmental factors effecting these subissues are examined chronologically from World War I through the Korean War. Chapter 2 examines CAS prior to and during the Second World War. Chapter 3 discusses CAS prior to and during the Korea War. Chapter 4 reviews General Almond's credentials, as well as his views, employment strategy, and influence regarding CAS. Chapter 5 evaluates the four CAS subissues. It discusses the principal issues, the relevant findings and conclusions, and the implications of this analysis on current issues. Chapter 5 also recommends possible areas for future research.

## Chapter 2

# Close Air Support World War I through World War II

*Attacking Ground Troops. The observation squadron, when its full strength is employed, can bring to the attack fifty-two machine guns and twenty-six hundred pounds of high explosive. Obviously ground attacks can be executed only by sacrificing other important duties, and the observation squadron is not specially trained for this work. Its use for ground attack must then be regarded as exceptional. However, it possesses so much firepower that, in certain situations where information becomes of secondary value, there should be no hesitation in using it in this manner.*

—US Army, *Tactical Principles and Decisions*, 1925

### Introduction

The CAS debate between airmen and soldiers began as early as World War I. Recognizing this fact, several CAS subissues are worth tracking over time to understand where the controversy regarding CAS came from and how it developed. These subissues include priorities in the most effective employment of airpower, ownership and apportionment of CAS assets, the CAS C<sup>2</sup> system, and single versus multipurpose CAS aircraft debate. Several environmental factors affected these subissues during each time period discussed. They are defense funding, joint doctrine and training, actual CAS employment, enemy combat capability (air and ground threats), combat environment (terrain, weather, etc.), formal organizations, and available technology.

### World War I

When the United States entered the First World War, the military use of aircraft was still in its early stages of development.<sup>1</sup> While the Wright brothers' first airplane launched airpower into a new age in 1903, the United States had left it to its European neighbors to refine airpower development from that point up to the beginning of the Great War. Although the United States entered the war late, it made some marvelous contributions, especially when one considers the pitiful state of US airpower in 1914. The Army now had a new weapon and would experience growing pains as it determined the best use of airpower. Debate and combat experience helped shape opinions on airpower's use, especially regarding CAS.

## **Priorities in the Employment of Airpower: World War I**

During the early years of CAS, both the Army and early Army air arm recognized that air superiority must first be achieved before trying to conduct strategic strike, air interdiction, or CAS operations.<sup>2</sup> This agreement between soldiers and airmen on the first priority for an air force has remained in effect and has only rarely been a source of friction.

As early as World War I, soldiers and airmen alike understood the strong interrelationship between air superiority and CAS.<sup>3</sup> Gen John J. Pershing, commander of the American Expeditionary Force (AEF) in World War I, summed up the priorities of airpower at the time saying the primary aim was control of the air, but that the ultimate objective remained traditional. By traditional, he meant that after achieving air superiority, the enemy's artillery and ground troops had to become air's immediate priority. When air officers suggested the military objective (enemy center of gravity), might in fact be deeper or more strategic (i.e., national will or industry), they were overruled by ground commanders. Aircraft technology at the time was also not yet sufficiently advanced to strengthen the airmen's argument. At least as far as senior Army leadership was concerned, the focus for the time being would remain at the front line of battle. Further, the selection of ground targets "would depend solely upon their importance to actual and projected ground operations."<sup>4</sup> While the focus remained close to the front lines, some Army officers began thinking of using airpower to strike deeper enemy targets. Col Edgar S. Gorrell's strategic bombardment plan in the final year of the war envisioned bombing German cities on the Rhine.<sup>5</sup> However, three factors prevented drawing any conclusions on the effectiveness of deep strike bombardment: General Headquarters (GHQ) Air Service's reluctance to divert assets for more strategic purposes, failure of US industry to meet wartime aircraft requirements, and the United States' relatively short involvement in World War I.

The US Army began to place emphasis on CAS because of the psychological impact it had on the enemy in 1917, forcing him to react defensively or even flee the battlefield.<sup>6</sup> However, by 1918, repeated exposure had somewhat hardened ground veterans against the psychological effects of CAS attacks.<sup>7</sup> By the end of the war, Gen William "Billy" Mitchell recognized the value of attack aviation (CAS included) and proposed regular attack aviation units with specialized aircraft or flying tanks.<sup>8</sup> Also, by the end of the First World War, Mitchell, along with many other airmen, felt CAS and close interdiction were priority missions for future conflict. The preceding demonstrates that at the conclusion of World War I ground and air officers agreed air superiority should be the first priority of airpower. However, there was clearly no agreement, even between air officers, as to the next priority of airpower.

## **Ownership and Apportionment of CAS Assets: World War I**

The fact that no detailed procedures for CAS were developed prior to World War I also reflected the reality that few US aircraft were available before 1917 to perform much of a CAS role. For that matter, there were only 65

officers in the entire Army Air Service in April 1917 and only 26 of these were actual aviators.<sup>9</sup> The defeat of a February 1913 House committee bill (the Hay bill) recommending the creation of a separate Air Corps as one of the line components of the Army showed the general attitude that airplanes only provided an auxiliary function subordinate to the general service of information within the Signal Corps.<sup>10</sup>

The issue of who should control aircraft emerged during World War I. Prior to US involvement in World War I, the Air Corps' "first projected task was to provide every two ground divisions with one squadron of aerial reconnaissance and one balloon company."<sup>11</sup> Aircraft were tied to ground units that totally controlled their mission.<sup>12</sup> Airmen opposed this idea of decentralized control.<sup>13</sup> They favored the greatest possible concentration of air assets, under the direct control of an air officer, no matter what the mission.<sup>14</sup> In September 1918 the Army allowed airmen a brief test of this theory. While organized primarily to conduct concentrated counterair missions, General Mitchell's command of some 1,500 Allied aircraft for the Saint-Mihiel offensive allowed him to provide concentrated air support for Allied ground commanders.<sup>15</sup>

### **CAS C<sup>2</sup> System: World War I**

The First World War witnessed many problems regarding aircraft identification and communications between air and ground troops. To the infantryman on the ground experiencing air attacks during World War I, all aircraft appeared hostile. This view required training ground soldiers in basic aircraft recognition.<sup>16</sup> To coordinate with airmen, "Infantry would fire flares or smoke signals indicating their position, or lay out panel messages to liaison aircraft requesting artillery support or reporting advances or delays."<sup>17</sup> As mentioned previously, friendly and enemy aircraft were difficult to differentiate for the ground soldier. Equally, airmen had trouble finding the front and then separating friendly from hostile ground forces once at the front.<sup>18</sup> Therefore, "Mitchell imposed stringent guidelines on when aircraft could attack in support of ground forces."<sup>19</sup>

Although radio communications, still in a primitive state during World War I, were aboard some aircraft, most aircraft were out of touch with the ground immediately upon takeoff.<sup>20</sup> Radio communications between aircraft and ground commanders were deficient due partly to inadequate training of ground troops in communications equipment use and C<sup>2</sup> procedures.<sup>21</sup> Also, equipment was huge, heavy, and unreliable; and aircraft engine power was very low. These factors resulted in large delays in passing intelligence to ground and air commanders regarding the current bomb line. Additionally, early air-to-ground radios were subject to regular equipment failures.<sup>22</sup> Lack of reliable radio communications forced airmen and soldiers to correspond via visual signals, dropped messages, and even carrier pigeons.<sup>23</sup> During World War I, there were no diverts or on-call aircraft flying CAS operations. Each aircraft flew its prebriefed mission. C<sup>2</sup> consisted of issuing a pilot an updated

map with (hopefully) the newest lines drawn between friendly and enemy territory; again, this system resulted in unintended instances of friendly fire.<sup>24</sup>

For the most part, US World War I Army organization emphasized decentralized control of air assets. For instance, General Mitchell, chief of the Air Service, First Army, only commanded aviation units directly attached to the First Army. He had no command authority over air units attached to the First Army's corps and divisions.<sup>25</sup> In a rare instance of exercising centralized control during the Saint-Mihiel offensive in September 1918, Mitchell acted as the single air commander for 1,500 French, British, Italian, and American aircraft strafing and bombing retreating enemy troops, guns, and transport.<sup>26</sup> "Despite poor weather conditions, this overwhelming mass retained aerial control as the fighters penetrated over German airfields and day bombers struck targets on the battlefield and in the rear."<sup>27</sup> This experience of concentrating aircraft for a decisive blow demonstrated what airpower could accomplish under centralized C<sup>2</sup>.

### **Single or Multipurpose Aircraft Debate: World War I**

Because most aspects of aerial combat were new to the United States, it entered World War I in no position to provide single-role aircraft for specialized air missions. The United States began World War I with only 250 aircraft; it would finish the war with more than 11,000.<sup>28</sup> With no specialized CAS aircraft available, "the precursor to ground-attack aviation was the infantry contact patrol plane."<sup>29</sup> Most American units lucky enough to already have aircraft arrived at the front with the de Havilland 4 (DH-4) which was used "in a variety of roles, one of which was ground attack."<sup>30</sup> Due to sluggish US aircraft industry production, US Army aviators flew mostly foreign-built planes in World War I.<sup>31</sup> "The desirable design characteristics for CAS . . . aircraft pointed toward armored aircraft equipped with multiple machine guns and racks for bombs, capable of attaining high speed and operating with great maneuverability and agility (the latter being the ability to transition from one flight condition as rapidly as possible to another)."<sup>32</sup>

A split developed between proponents of single (dedicated design) and multipurpose aircraft for CAS. The reality of current technology was that the ideal CAS aircraft was slow; it was only well protected from ground fire when operating in an environment of air superiority.<sup>33</sup> Because there was no guarantee of air superiority during World War I (except for limited periods of concentrated effort), the ideal aircraft appeared to be a compromise: "an aircraft having fighter like agility together with reasonable payload and self-protection features such as armor plating."<sup>34</sup> During World War I, US air forces emphasized multipurpose fighter aircraft while conducting offensive air operations.<sup>35</sup> As US industry reached its stride, aircraft quality improved throughout US involvement in the war. US ground attack (CAS) aircraft were not originally designed for CAS but were the products of single-seat fighter development modifications.<sup>36</sup> Subsequently, there were no single-purpose CAS aircraft developed during World War I.

Antiaircraft (AA) ground fire was practiced with varying degrees of effectiveness during World War I. AA defenses around principal enemy targets were considered excellent.<sup>37</sup> However, Capt Eddie Rickenbacker summed up many pilots' thoughts on "Archie," or AA fire, by describing it as "so appalling but so futile a menace."<sup>38</sup> But the fact remained that German AA gunners destroyed 1,588 Allied aircraft. AA accuracy improved significantly compared to aircraft development as the war progressed due to improvements in AA equipment design.<sup>39</sup>

### **The Interwar Years**

World War I was said to be the war to end all wars, and the formation of the League of Nations offered the hope of lasting peace. Many Americans, wishing to cash in on the peace dividend and anxious to get back to isolationism, gladly accepted cuts in the national defense. Along with all other areas of the US military, air forces experienced reduced budgets.<sup>40</sup>

### **Priorities in the Employment of Airpower: Interwar**

In 1918 Colonel Gorrell, then assistant chief of staff, Air Service, AEF, recognized that attack aircraft must operate in an environment of air superiority, thus establishing control of the air as the first air priority.<sup>41</sup> This view of counterair force employment as top priority was shared by both ground and air officers throughout the interwar years.<sup>42</sup> By mid-1919, nearly all European Air Service AEF reports, manuals, and histories recognized attack aviation (effectively CAS) as exceeded in importance by observation and pursuit but more important than interdiction or strategic bombardment. Bombardment was generally disregarded due to inconclusive results in World War I and on ethical grounds (i.e., bombing civilians).<sup>43</sup> Thus, air priorities were first, air superiority (pursuit); second, observation; third, CAS; and fourth, interdiction and strategic bombardment.

The Army General Staff's 1922 Training Regulation 10-5, *Doctrines, Principles, and Methods*, stated, that in war "the primary objective would be the destruction of his armed forces;" further explaining, "all air action was auxiliary to the ground battle."<sup>44</sup> Even though airmen of the time went along with their support role for the ground army, they disagreed with soldiers over targeting. Ground officers "favored front-line, morale-boosting action; aimed at enemy trenches, concentrations, and gun positions."<sup>45</sup> However, airmen felt such attacks were inefficient and insisted on targets beyond Army artillery range, such as "supply and communication systems in the enemy's rear."<sup>46</sup> Rumblings were already occurring at the tactical level over the issue of frontline targets versus interdiction targets further removed from the battlefield. In 1923 Gen Mason Patrick, chief of the Air Service, introduced the preceding "fundamental conceptions" to the Air Corps Tactical School (ACTS) in the form of a manual.<sup>47</sup> While the US Army attempted to legitimize this doctrine calling for the air arm to support the Army in the defeat of an enemy army, airmen wasted little time in formulating their own agenda.

By 1925 General Mitchell, originally a ground attack and pursuit proponent, shifted his top priority to strategic bombardment; he (like Giulio Douhet) believed only strategic airpower could win the total wars of the future. With increased autonomy achieved through the Air Corps Act of 2 July 1926, airmen unofficially shifted their priority for airpower to strategic bombardment over CAS. By about 1930, airmen quietly slipped close support behind strategic attack and air interdiction.<sup>48</sup> The 1925–30 period marked the maturing of a fundamental split in air and ground strategic thinking. Soldiers and airmen still believed air superiority was the first priority but for different reasons. Soldiers believed air superiority was a means of attaining their ends, creating a favorable environment for defeating the enemy army in a direct confrontation. Airmen increasingly believed air superiority was a means of attaining different ends, creating a favorable environment in which to conduct deep interdiction and strategic bombing, thus destroying the enemy's will and/or capability to wage war.<sup>49</sup> Therefore, there was a natural split in defining the second priority of airpower. Because soldiers believed airpower was just another tool for the ground commander, they logically assumed CAS as the second priority use of air assets. However, many airmen were no longer convinced that direct attack on enemy forces near the front was the most efficient use of airpower; perhaps an indirect approach against the enemy's communications, industry, and/or population could more efficiently attain political objectives. Therefore, some airmen concluded, the second priority of airpower should be deeper targets (those associated with air interdiction and strategic bombardment) than the forward area targets associated with CAS.<sup>50</sup>

In the late 1930s, "The prevailing influence of strategic air warfare tended to work against developing a cohesive tactical air-ground doctrine."<sup>51</sup> Between 1926 and 1941, the ACTS, heavily influenced by Mitchell, as well as Gorrell's earlier work during World War I regarding strategic air operations, began placing the value of strategic bombing—industrial web theory—as a higher priority use of airpower than CAS. (The industrial web theory encouraged strategic bombardment of an enemy's industrial capability to produce war sustaining items. One would analyze an enemy nation's infrastructure for specific areas of vulnerability. Members at the Air Corps Tactical School recommended studying six economic institutions of a nation that contributed to its war effort: raw materials, capital, labor, manufacturing, communications, and transportation. By studying these areas one could determine specific targets which would yield the most overall destruction to the enemy's total war system given a limited number of strategic air assets for employment.)<sup>52</sup> The World War I experience of stalemate on the ground seemed to support this new doctrine. ACTS lectures in 1934–35 explained that by interrupting a nation's industrial web through strategic bombardment, one might cause moral collapse. However, even if moral collapse did not occur, strategic bombing would eventually cause a collapse in the enemy's industrial fabric; in modern war a nation was considered helpless without the warmaking potential of its industry.<sup>53</sup> Airmen displayed their lack of concern over developing CAS doctrine when they stated that "rarely will troops during

battle be suitable objectives of an Air Force.”<sup>54</sup> Historian Joe Gray Taylor summed up the relegation of CAS saying, “Thus, in the ten years preceding the outbreak of the Second World War, the Air Corps paid little attention to tactical aviation as a whole.”<sup>55</sup> This is not to imply that attack aviation completely disappeared from the ACTS curriculum; it did however, take a serious back seat to the instruction on deeper attack.

The ground portion of the Army had a much different view. In disapproving a 1940 organizational proposal by Gen Henry “Hap” Arnold, the War Department General Staff stated, “The Air Corps believes that its primary purpose is to defeat the enemy air force and execute independent missions against ground targets. Actually, its primary purpose is to assist the ground forces in reaching their objective.”<sup>56</sup> This statement further illustrated the divergence in thought between airmen and ground soldiers over the location of an enemy’s center of gravity.

### **Ownership and Apportionment of CAS Assets: Interwar**

Ground and air officers also differed over ownership of CAS assets. Ground commanders believed CAS assets should be assigned to, and under the control of, field armies. Air commanders disagreed with this piecemeal distribution of CAS assets and argued for consolidation of CAS assets under the control of GHQ air forces.<sup>57</sup>

According to the National Defense Act of 1920, “All aviation in an Army should be employed for participation in the battle, and all strategic bombardment and reconnaissance should be done by aviation in GHQ Reserve.”<sup>58</sup> Attack (CAS) units were decentralized under direct control of armies, with one attack wing for each six field armies and one for GHQ Reserve.<sup>59</sup> Although airmen preferred more centralized control of air assets under a single airman, the Lassiter Board of 1923 retained the relationship of decentralized control.<sup>60</sup> Mobilization plans of the mid-1920s reflected the basic philosophy of distributing attack aviation, along with observation and pursuit, assets among field armies.<sup>61</sup>

In 1926, in accordance with Army Training Regulation (TR) 440-15, *Fundamental Principles for the Employment of the Air Service*, an air force of attack and pursuit units was assigned to each field army, while bombardment and pursuit aviation were held in reserve with GHQ Air Force.<sup>62</sup> It was assumed that when a field army became involved in important operations, it would be supported by GHQ aviation.<sup>63</sup> However, TR 440-15 also warned against breaking up the GHQ Air Force except in an emergency, and then only temporarily. Therefore, during this period a mix of centralized and decentralized control of air assets was applied. However, in the truest sense of the terms, airpower was decentralized.

Attack aviation training suffered along with all Army air training immediately following World War I due to unit inactivations and personnel transfers. However, some improvements were made by the end of the Air Corps Act of 1926’s Five-Year Program, in 1931.<sup>64</sup> The Air Corps did not set up special schools to teach attack aviation techniques; the training was left to

tactical units.<sup>65</sup> It is worth noting at this point that for a short period during the 1920s the US Army Air Service/Air Corps' Third Attack Group, established in 1921, was the only dedicated ground support unit in the world.<sup>66</sup> Despite the heavy emphasis airmen were placing on strategic attack theory, the Third Attack Group never went out of existence. Annual maneuvers suggested attack aviation was able to perform its mission of close support.<sup>67</sup>

GHQ Air Force's 1934 Command Post Exercise (a joint staff officers' war game) resulted in very different lessons learned by the major players. The First Army felt the exercises showed it should control attack aviation as part of its army organic assets. On the other hand, corps commanders thought they should control combat as well as observation aircraft. Contrary to the ground perspective, airmen disagreed with air asset employment during the exercise. Air assets had been diverted from air superiority and interdiction targets to provide CAS. Army and corps commanders were focused on the enemy immediately in front of them; whereas the airmen were convinced the air force's objective should be the enemy's transports (lines of communications between invading ships and enemy landed forces). Airmen complained that diversions for CAS prevented the air force from using air assets to achieve air superiority and subsequent interdiction attacks. While the split between deeper air employment and CAS was apparent, the services were beginning to enunciate their differences in the employment of attack aviation assets; airmen favoring interdiction and ground soldiers favoring CAS. Interestingly, Gen Hugh A. Drum, deputy chief of staff, went on record as saying that all means of defense needed to be better coordinated between the services, a suggestion that turned out to be many years ahead of its time, that is, the later creation of the joint force commander (JFC).<sup>68</sup>

The establishment of GHQ Air Force in the Regular Army in 1935 radically changed the Army's aviation organization. In 1936 pursuit and attack aviation were taken away from the control of field armies and put under direct control of GHQ Air Force.<sup>69</sup> The Air Corps Board noted that attack aviation should be assigned to GHQ Air Force so it could be used anywhere in a theater of operation as directed by General Headquarters. "A weapon capable of giving direct support to more than one subordinate unit should be assigned to a superior headquarters."<sup>70</sup>

On 20 June 1941, Army Regulation 95-5 created the Army Air Forces (AAF) and moved the Air Force one step closer to ownership and autonomous control of its air assets. The AAF controlled the Office of the Chief of the Air Corps, the Air Force Combat Command (formerly GHQ Air Force), and all other Army air elements.<sup>71</sup> Thus in 1941, despite most ground commanders' preferences, it appeared the issue was resolved; airmen would own all air assets and exercise centralized control. Unfortunately for all, the debate was far from settled.

### **CAS C<sup>2</sup> System: Interwar**

Problems associated with air-to-ground radio communication persisted well past the mid-1920s; "electrical interference caused reception trouble."<sup>72</sup>

Airmen and ground forces were usually limited to World War I techniques such as handwritten notes dropped in tubes or pouches and prearranged signals using flares or aerial maneuvers.<sup>73</sup>

In 1928 a board of Air Corps and Signal Corps officers determined two types of radio communications were necessary: "Command" communication within and between air units; and "liaison" communication between air and ground units.<sup>74</sup> By the early 1930s, training began to include radio communications control of air operations. This type of control had long suffered due to poor communications equipment. However, airmen used the equipment they could get; tactical units used available communications equipment and visual techniques to practice C<sup>2</sup> methods.<sup>75</sup>

In 1940 Air Corps Field Manual (FM) 1-10 *Tactics and Technique of Air Attack*, emphasized the importance of command, control, and communications between air and friendly ground forces (especially armored forces) using predesignated "signals, pyrotechnical devices, panels, and—above all—direct radio communication between armor and air units."<sup>76</sup> Airmen and soldiers had become aware of how they would like to employ air-to-ground communications; however, the technology was still trying to catch up with the Army's battlefield conceptions.

### **Single or Multipurpose Aircraft Debate: Interwar**

The interwar years marked a period of serious neglect for the US military in general, and CAS aircraft specifically. Partly due to desires to reduce the deficit, downsizing, growing isolationism, recession, and finally depression, the United States simply did not channel significant funds into ground-attack aircraft development.<sup>77</sup>

Early attempts to build a single-purpose ground-attack aircraft such as the Boeing GA-2 experienced technical difficulty resulting in the production of only one aircraft. Subsequent budget cuts in the mid-1920s precluded the development of a satisfactory ground-attack aircraft. So, even though the Air Service had established limited CAS doctrine by the mid-1920s there was limited commercial technology and funding to produce the necessary aircraft.<sup>78</sup> In fact, most ground-attack aircraft until about 1930 were modified versions of standard Army observation aircraft.<sup>79</sup> The Air Corps acquired 76 and 78, in 1928 and 1930, respectively, modified versions of the O-1B observation plane for use in attack aviation.<sup>80</sup> By 1931 the Army had a standard aircraft for observation, pursuit, and bombardment but not one for ground-attack aviation.<sup>81</sup>

Private aircraft development stressed load capacity, thus aircraft development in the 1920s focused on long-range transport. The commercial incentive and an air doctrine stressing bombers over fighters led to quicker developments in bomber technology at the expense of attack and fighter aircraft technology into the 1930s. Additionally, technological advances in aerodynamics, structures, and propulsion generated entirely new capabilities in aircraft design by the 1930s; faster, more durable, longer range aircraft

were now possible. Examples of attack aircraft developed included the Curtiss A-3, the A-12 Shrike, the Curtiss A-21, the Northrop A-17A, the Martin Model 167F, and the Douglas A-20 Havoc.<sup>82</sup> However, the performance of these aircraft was found wanting and so “the fighter airplane gradually came to assume the duties of what had, to that time, been considered the traditional role of the ‘attack’ airplane—striking at ground targets with bombs and machine-gun fire delivered from low-altitude terrain-hugging attacks.”<sup>83</sup>

In 1938 Gen Oscar Westover, chief of the Air Corps, requested a more powerful plane for ground support purposes. This aircraft became the Army’s light attack bomber, the Douglas A-20 (twin-engine, 350 mph, 1,200 mile range, 20,000 foot altitude, .30-caliber machine guns, and a weapons load of 2,000 pounds in bombs).<sup>84</sup> In 1940–41 the Air Board and FM 1-5, *Employment of Aviation of the Army* (published 15 April 1940), attempted to settle the debate over the best CAS/close interdiction aircraft. The Air Board claimed that the light bomber was more effective and survivable, pointing toward using the Douglas A-20. Ground commanders also expressed their preferences in what characteristics a CAS aircraft should possess. Maj Gen Innis P. Swift, commander of the 1st Cavalry Division, proposed the Army’s ideal CAS aircraft, “long loitering capability, armor protection against ground weapons, and ability to carry a suitable number of weapons and munitions . . . engine with suitable horsepower.”<sup>85</sup> After added controversy over whether the dive-bomber might not be more effective than the light bomber, Air Force Combat Command (the successor to GHQ Air Force) decided on the dive-bomber and produced a small quantity of Brewster A-32s. The A-32 was heavier and carried four 20-mm cannons. However, this single-purpose air-to-ground aircraft proved ineffective in World War II and was eventually replaced by the North American A-36 (a converted P-51 fighter).<sup>86</sup>

AA capabilities made little progress in relationship to aircraft development during the interwar years. As aircraft attained greater speeds and altitudes, AA development failed to keep pace in the years just prior to the Second World War. Lack of adequate AA training during this period also impaired AA effectiveness.<sup>87</sup> ACTS’s teachings stressed to airmen that AA was not a significant threat. Capt Laurence S. “Larry” Kuter of ACTS was quoted as saying that “antiaircraft fire, while annoying, should be ignored.”<sup>88</sup>

A shortage of defense dollars and basic disagreement between airmen and ground commanders resulted in little emphasis placed on developing a survivable, dedicated CAS aircraft. Therefore, the United States entered World War II with a less than optimal CAS capability.

### **World War II (Precombat, North Africa, Pacific, Sicily/Italy, and France) Priorities in the Employment of Airpower**

**Precombat.** In 1941 during joint training in the Louisiana Maneuvers, the AAF allotted air sorties as follows: 82 percent to interdiction targets (60 percent to lines of communications and 22 percent to armored and mechanized rear forces) and only 18 percent toward “miscellaneous,” to

include direct battlefield support or CAS. Airmen avoided providing CAS to ground commanders for small enemy concentrations and targets within range of friendly artillery. Such attacks were not considered a profitable use of air assets.<sup>89</sup> Clearly, most airmen had decided that, as a general rule, CAS should be the last priority of airpower.

**Pacific.** While Marine and Navy CAS also demonstrated significant growth in doctrine and techniques during Pacific operations, the focus of this study remains Air Force CAS in support of ground forces, particularly, the Army. However, one cannot ignore the possible effect Marine and Navy CAS experience in the Pacific had on the Army and Air Force.

Airmen faced a different enemy (Japan) and a different environment (islands separated by long distances) in the Southwest Pacific during World War II than forces fighting in Europe and North Africa. However, even in this environment, and with Gen George C. Kenney's (Allied Air Forces, Southwest Pacific Area, commander) recommendation, all services still agreed that local air superiority, defeat of the Japanese air force in their area of operations, was the top air priority.<sup>90</sup> Targets were enemy airdromes on subsequent islands along the path of the Allies' island-hopping route toward Japan.<sup>91</sup> The next priority was interdiction (close and deep) of Japanese shipping and lines of communications (LOC) overland to Japanese frontline forces.<sup>92</sup> In addition to Allied air attack, US submarines also achieved tremendous success interdicting Japanese shipping. It is important to note that aircraft range limitations effectively precluded any discussion or thoughts of attacking more distant Japanese strategic targets by air. Kenney, as well as Gen Douglas MacArthur and most Allied commanders, believed they needed to use airpower for air superiority and interdiction to isolate the battlefield. Once the battlefield was isolated, air assets would provide CAS to ground troops.<sup>93</sup>

**North Africa.** During 1942 fighting in North Africa, contrary to prewar doctrine, air support commands, tied to Army corps needs, demonstrated the priority attached to CAS over interdiction and strategic strike.<sup>94</sup> This employment was consistent with War Department FM 31-35, *Aviation in Support of Ground Forces* (issued 9 April 1942). This priority on CAS also implicitly overrode the previously agreed upon primary priority of airpower to achieve/maintain air superiority. Thus, sorties tied to corps commanders were not available to destroy German aircraft at enemy airfields.<sup>95</sup> However, as a result of airmen's persistence on the issue, decisions at the Casablanca Conference, and Gen Dwight D. Eisenhower's reorganization in North Africa, centralized control of air assets under a single airman was established in late January 1943. For years, a gross misperception has linked the Allied defeat at Kasserine Pass, and the experiences and teachings of British Air Marshal Sir Arthur Coningham, Northwestern African Tactical Air Forces commander, as the driving reasons for the reorganization of Allied air forces in Africa (i.e., centralized control of air assets under the command of an airman). Neither of these two factors were the actual drivers in changing the force organizational structure. First, Kasserine Pass (14-23 February 1943) did not occur until after the reorganization decision at Casablanca (20 January 1943). Further,

because poor weather grounded both the Allied Air Force and German Luftwaffe during the most critical days of the battle, the air organization can hardly be blamed for the Kasserine defeat. Second, Coningham did not assume command of the Northwest African Tactical Air Force until February 1943, after the reorganization decision. Many airmen had held the conviction of "centralized control of air assets under a single air commander" for years before the reorganization decision at Casablanca. However, they had always had difficulty selling the concept to their masters in the Army. Rather, Coningham should be credited with adding legitimacy to an already existing US airmen's argument and be commended for bringing the operational details from his previous North African air experience to the US Army Air Service. The result for airmen was a refocus of the first priority of airpower back to achieving/maintaining air superiority "the neutralization and destruction of enemy air forces."<sup>96</sup> Additionally, interdiction was recognized as a higher priority use of airpower than CAS except in emergency situations. While British Air Marshal Coningham is generally credited with this revelation in airpower employment, Lt Gen Carl A. "Tooe" Spaatz, Northwestern Air Force commander, actually recommended the value of interdiction to "ground and air commanders in North Africa well before Coningham . . . took command."<sup>97</sup>

This refocus in priorities was manifested in FM 100-20, *Command and Employment of Air Power*, in July 1943, signed by Gen George C. Marshall, the Army chief of staff.<sup>98</sup> Airpower priorities became air superiority first, interdiction second, and CAS third.<sup>99</sup> FM 100-20 became the Air Force's basic doctrinal manual through the Korean War.<sup>100</sup> Officially relegating CAS to the third priority opened the door for increased friction over the CAS debate between ground and air officers.<sup>101</sup> Replacing the previously issued FM 1-5, dated January 1943, and effectively nullifying FM 31-35, FM 100-20 further illuminated the earlier described divergence in ground and air officers' views on the enemy's center of gravity. Despite FM 100-20's guidance, most Army ground officers retained their primary focus of achieving direct effects on the enemy fielded forces on and close to the battlefield.<sup>102</sup> Exceptions to this rule appear to have been Army commanders above the army level (i.e., Generals Eisenhower and Marshall), who were responsible for achieving strategic objectives in line with the political objective of Germany's unconditional surrender. Gen O. P. Weyland related a conversation he had with Gen George Patton regarding command perspective. Patton explained that as he progressed in rank and command position (i.e., division to corps to army) he felt air assets should be assigned directly to him for his control. With each promotion he changed his perspective and believed the piecemeal, direct assignment of air assets to lower levels was a waste of a limited resource. Conversely, although their focus had been changing for some years, most airmen used FM 100-20 to shift their perceived center of gravity to more indirect targeting of the enemy's war-making system. Common purpose, an air force still only part (though coequal part) of the Army, cooperation, and strong leadership enabled

ground commanders and airmen to develop a workable CAS arrangement during the North Africa campaign.

**Sicily/Italy.** During the Sicily invasion, Seventh Army and II Corps received no CAS during the first 48 and 72 hours of the operation, respectively. This was a direct result of lessons learned in North Africa and ideas forthcoming that same month (July 1943) in FM 100-20 regarding the refocus in air priorities. Allied Air Forces first directed sorties at the Axis air threat and then toward interdicting German forces attempting to reach the Allied landing areas. It was not until two to three days into the invasion that ground forces finally received CAS.<sup>103</sup> Surface commanders were displeased despite the fact airpower quickly achieved air superiority over the area of operations, while the Allies lost only three ships (a destroyer, minesweeper, and landing ship, tank)<sup>104</sup> out of 1,411<sup>105</sup> due to enemy air attack.<sup>106</sup> Air forces appeared unresponsive to air support requests, at least in the opinion of surface commanders.

Soldiers, sailors, and marines directly experiencing the effects of the Luftwaffe on D day were less than convinced of the utility of FM 100-20's priority scheme in the employment of airpower. While subsequent days proved less threatening to Allied invasion forces, the memory of no close air support in the first few days was hard to erase from soldiers' minds. Conversely, airmen saw that even after gaining air superiority over the Luftwaffe, US CAS aircraft sustained heavy losses to antiaircraft artillery (AAA) fire. This fact only strengthened the airmen's argument that interdiction targets were a more profitable use of valuable, and vulnerable, air assets.<sup>107</sup>

**France.** Most airmen and soldiers had profoundly different views of airpower priorities in 1944. Spaatz\* and industrial web enthusiasts (products of the ACTS) believed strategic bombing of the German war-making system might achieve victory without a European land invasion. They thus advocated pursuing their own first and second air priorities, air superiority and strategic attack, respectively. However, political considerations and senior Army leadership directed a land invasion. In preparation for the Normandy invasion, Eisenhower believed that sufficient airpower strength to maintain both air superiority and CAS (FM 100-20's first and third air priorities), while also performing interdiction, were critical to success.<sup>108</sup> Consciously diverting air assets, considered strategic by Eighth Air Force, Eisenhower reapportioned air assets to cover air superiority, interdiction, and CAS at the expense of strategic bombing. Fortunately, these reapportioned air assets, along with the weakened state of the Luftwaffe in 1944<sup>109</sup> were sufficient to achieve/maintain air superiority and a form of high-level dedicated CAS system through the formation of tactical air commands assigned directly to

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\*While Spaatz was probably fairly labeled as a strategic air proponent, he did not blindly support the strategic use of airpower at the expense of tactical applications. He was also a significant influence regarding the reorganization in North Africa, the writing of FM 100-20, the creation of Tactical Air Command, and was the commander that General Eisenhower turned to for tactical air diversions of strategic Eighth Air Force assets before the Normandy invasion.

US armies. Abundant air assets in the final year of the war in Europe precluded disabling debate between air and ground commanders as to the relative priorities of CAS and interdiction.

Therefore, at the conclusion of World War II most ground commanders favored using air assets for tactical and operational purposes over strategic employment. Conversely, airmen clearly favored the strategic use of airpower and believed CAS was the least efficient employment of limited air assets.

### **Ownership and Apportionment of CAS Assets**

**Precombat.** In April 1942 FM 31-35 created the appearance of a workable ground-air support system; "This manual was heavily concerned with organization and had little to say about operations."<sup>110</sup> The system essentially created mini air forces for corps commanders which violated the airmen's concept of centralized control of air assets for the most effective use within a theater. Additionally, this system tended to draw the focus for air employment to frontline forces versus deeper targeting. While the Army approved of this dedicated tactical use of air support, the concept violated the current thinking of more strategic-minded airmen.<sup>111</sup> Apportionment of assets in favor of deeper targets was now firmly ingrained in the hearts of airmen as a result of Mitchell's and the ACTS's teachings throughout the 1930s.

**Pacific.** Under General MacArthur, in August 1942, General Kenney enjoyed centralized control of air assets in the Southwest Pacific area. MacArthur entrusted Kenney with the freedom to employ airpower as best fit evolving circumstances.<sup>112</sup> Operating under a mission-type orders system,<sup>113</sup> MacArthur and Kenney benefited from what one might today consider a relationship similar to the one shared by a JFC and a JFACC.<sup>114</sup> Kenney, in turn, delegated day-to-day flight operations to Brig Gen Ennis Whitehead.<sup>115</sup> Whitehead, as commander, Advanced Echelon (ADVON), Fifth Air Force, had control of all Fifth Air Force air assets, as well as some Royal Australian Air Force assets occasionally assigned to him by Kenney.<sup>116</sup>

**North Africa.** The result of the initial US military organization in North Africa which employed decentralized control proved to be a poor use of air assets in the opening months of the campaign.<sup>117</sup> However, Eisenhower's reorganization, as a result of the Casablanca Conference in early 1943, forced a significant change in US air employment. The reorganization, the scrapping of FM 31-35, subsequent publication of FM 100-20, and the British influence of Air Marshal Coningham resulted in air requests going above corps level to the highest Army level, while tactical air units were placed under the command of an airman.<sup>118</sup> Centralized control of air assets under an airman met frequent Army resistance but proved effective in flexibly concentrating airpower in North Africa.<sup>119</sup>

**Sicily/Italy.** Operation Husky, the Allies' invasion of Sicily, demonstrated airmen's preference in attacking deeper targets for operational value, over more tactical, or CAS-type targets. Air operations for Husky were conducted "virtually independently" of amphibious and ground operations.<sup>120</sup> The

command structure provided no AAF aircraft directly assigned for ground support of the invasion. Gen Omar Bradley, II Corps commander, First US Army, summed up ground commanders' concerns emphasizing their discomfort in not knowing what the air plan was and the uncertainty of whether ground forces would receive CAS at all.<sup>121</sup>

As noted previously, air forces were centralized in order to first achieve air superiority and second interdict Axis troops and supplies from reaching frontline fighting. Bradley expressed perturbation over the AAF's deeper attack emphasis and believed airmen's "lack of air participation in the joint planning at every level was inexcusable."<sup>122</sup> However, Bradley also admitted "there were no well-organized Axis air assaults on our invasion forces . . . the Seventh Army was not seriously interfered with."<sup>123</sup> While the air plan for air superiority and interdiction appears to have been appropriate and well executed, failure to keep the Army informed seems to have negated the benefits provided, at least in the hearts and minds of the ground commanders.

**France.** The battle for France saw a new command relationship for tactical air assets. Contrary to FM 100-20, the Allies would not centrally control all air assets at the theater level as they had done in the Mediterranean.<sup>124</sup> In April 1944 Ninth Air Force's Fighter Commands became Tactical Air Commands (TAC). And while no formalized structure linked the Ninth's subordinate commands to specific land forces, there existed a general agreement among the major players:<sup>125</sup> "IX TAC would support the activities of First Army, and the XIX TAC would support . . . Third Army."<sup>126</sup> Eventually XXIX TAC was created to support Ninth Army. This arrangement, contrary to the newly developed FM 100-20, essentially centralized control of most nonstrategic air assets at the numbered army level. Ground commanders were extremely pleased with this command relationship.<sup>127</sup> In their opinion, air assets were better tied to their objective, which was occupying territory and defeating the German army. While tactical air commanders were also conducting counterair and air interdiction missions they still spent a good deal of their time providing CAS to the army.<sup>128</sup> Despite the technically decentralized command structure, airpower was demonstrating its great versatility. The ever-increasing gap between Allied airpower and the Luftwaffe allowed for Allied air superiority for much of the final year of the war, even without centralized control at the theater level.

### **CAS Command and Control System**

**Precombat.** During the Louisiana Maneuvers, 1940-41, CAS C<sup>2</sup> proved awkward. Air liaison officers approved or disapproved air requests received from ground division or corps level. Actual frontline ground forces had no direct communications with inbound strike flights. This lack of control over the employment of airpower became a source of friction between ground soldiers and airmen. These exercises identified a need to improve CAS C<sup>2</sup> systems.<sup>129</sup> FM 31-35 attempted to improve the air-ground C<sup>2</sup> system. "FM 31-35 placed air support commands under the control of the ground force

commander, while the commander of the air support command was to act as an air adviser to the ground commander."<sup>130</sup> However, the coordination involved in a network of air support parties, air support control centers, and communications between ground and air forces, consolidated within an Air Support Command, proved too cumbersome to be truly effective. FM 31-35 made airmen appear to be more receptive to providing quality CAS than was the case. By this time, airmen's minds were wandering toward using airpower for their second priority (after achieving air superiority), strategic bombardment. Unfortunately, the FM 31-35 system was all that existed at the time and was used by the United States in North Africa until February 1943.<sup>131</sup>

**Pacific.** General Whitehead controlled his air assets by issuing mission-type orders to his group commanders (i.e., bomber, fighter, etc.) and then tweaking this guidance with daily taskings.<sup>132</sup> As more air assets began arriving in theater, Whitehead increasingly decentralized control for his fighter and bomber commanders to assume more of the detailed operational control of assigned aircraft.<sup>133</sup>

The thick jungles and hazardous weather<sup>134</sup> of the Pacific offered significant C<sup>2</sup> challenges.<sup>135</sup> Difficulty in distinguishing enemy from friendly forces and numerous friendly fire instances led to a succession of identification techniques. After colored identification panels proved unsuccessful, "the Marines assigned a radio-equipped 'air forward observer' team to front-line forces to control and direct incoming strikes, with much greater success."<sup>136</sup> The Marines, falling back on their earlier experience in Nicaragua, also helped solve joint service communications problems by simultaneously controlling strike aircraft via radio.<sup>137</sup> This Pacific C<sup>2</sup> system continued to improve throughout 1943-45. As might be expected due to its doctrinal emphasis in using aircraft as a form of flying artillery, the most successful CAS C<sup>2</sup> system occurred within the Marine Corps itself between its air and ground forces.<sup>138</sup> Army ground personnel in the Pacific theater liked what they saw in the decentralized Marine CAS system.

**Sicily/Italy.** C<sup>2</sup> problems during the Sicily invasion added to CAS friction and included deficiencies in communications, identification of friendly forces, and ground-air liaison. Sicily saw experimentation with fighter control parties (personnel in jeeps with VHF radios directing sorties against enemy positions).<sup>139</sup>

During the Italian campaign, radio-equipped forward control posts and aerial forward air controllers (FAC) were effectively employed as standardized C<sup>2</sup> procedures were developed. Adaptation of the British "Rover" system provided better CAS to the ground commander. An Army air liaison officer, equipped with a VHF radio would "rove" from brigade to brigade at the front and coordinate fighter-bomber strikes with an AAF controller to provide needed CAS. Airborne FACs also aided ground commanders by calling in necessary CAS.<sup>140</sup>

**France.** Successful instances of CAS in close proximity to Allied ground forces in 1944 led to an enthusiastic Army/AAF exchange program to enhance air-ground cooperation. The results included not only psychological and

comprehensive benefits but also the development of new attack techniques and weapons.<sup>141</sup> Some C<sup>2</sup> problems did continue, resulting in continued instances of friendly fire. The decision over where to set the "bomb safety line" led to creating an inadvertent sanctuary zone from Allied airpower for German forces inside the bomb line. To counter this situation, the Army and AAF created a close cooperation line inside the bomb line. Because the close cooperation line changed as many as 10 times a day and real time intelligence was not available in the 1940s, C<sup>2</sup> problems continued for CAS.<sup>142</sup>

On the drive through France and into Germany, Maj Gen Elwood R. "Pete" Quesada's IX TAC provided continuous daylight "armored column cover" to First Army, a form of air protection and flying artillery. As the First Army concentrated its armor for offensive operations, Quesada furnished an aviator and an aircraft radio for the lead tank to communicate with the IX's fighter-bombers.<sup>143</sup> General Weyland's XIX TAC provided the same type of equipment and personnel support to General Patton's Third Army.<sup>144</sup> Armored column cover became the standard as the Allies advanced, consisting of four dedicated P-47s relieved every 30 minutes by another flight.<sup>145</sup> Ground officers liked the tighter control and closer coordination available under the TAC/numbered Army arrangement of dedicated, push-CAS. While airmen performed admirably under this decentralized control-type system, they were still convinced centralized control of air assets at the theater level by an airman was the preferred method of airpower employment.

Operation Cobra, 24 July 1944, called for strategic bomber assets to provide preplanned CAS for an Allied ground thrust.<sup>146</sup> During Cobra, a postponement order, due to bad weather, was never received by Eighth Air Force. This order was to delay their CAS mission. General Bradley was convinced the AAF had lied to him about their intended tactical method of employing preplanned CAS for Operation Cobra. He claimed to have directed the AAF to bomb German ground troops in a parallel direction to the front to avoid dropping bombs short on friendly troops. The AAF instead bombed perpendicular to the front. Gen Frederic H. Smith Jr., Eighth Air Force observer, claims Bradley was aware of the risk and authorized perpendicular bombing to save time. Failure to withdraw friendly ground forces 1,500 yards, as planned for, from the front line prior to the planned CAS—the confusion regarding the delaying order—poor visibility due to weather, and bombs dropped short of their intended target resulted in 25 killed and 131 wounded on 24 July 1944. In comparison, General Spaatz's daily journal indicated overall casualties for Cobra were 89 killed and 350 wounded. [Lt Gen Carl Spaatz, Daily Journal Entry, 26 July 1944.] Regardless of the exact number of casualties the unfortunate fact remained, C<sup>2</sup> systems were not yet sophisticated enough to handle such close and complicated coordination, especially between strategic air—versus the dedicated TACs already assigned to support specific armies—and ground forces. The unfortunate result saw the bombers inflicting numerous friendly casualties. Ninth Air Force bombers also caused many casualties during this same operation.<sup>147</sup> Neither Eighth Air Force nor Ninth Air Force's Bombardment Divisions enjoyed the close C<sup>2</sup>

arrangement the TACs had with the numbered armies. Even after moving friendlies back farther from the bomb line, Lt Gen Leslie J. McNair, former commander of Army Ground Forces, was killed along with other friendly forces by non-TAC bombers the next day.<sup>148</sup> Despite the facts that General Bradley was aware in advance of the strong possibility of at least a small number of friendly casualties and the tremendous effect the bombings had in achieving an Allied breakthrough, Operation Cobra was not hailed as a success by ground commanders for obvious reasons.<sup>149</sup>

Instances like Operation Cobra, convinced many ground officers that their preferred solution to the CAS problem was better C<sup>2</sup> of dedicated, single-purpose air assets trained to operate in close proximity to ground forces and decentralized control of air assets assigned to ground formations (i.e., TACs).

### **Single or Multipurpose Aircraft Debate**

**Pacific.** The Bell P-39/P-400 Airacobra, designed as a fighter, proved inferior in air-to-air combat, but was successfully adapted for CAS in the Pacific, strafing and bombing the Japanese. In fact, Historian Taylor postulated that had those aircraft been successful in air-to-air use, "ground forces might have had no direct support at all."<sup>150</sup> The Douglas A-24 Dauntless, designed for the air-to-surface mission (specifically, ship attack), proved lacking in the Pacific when faced with an environment where air superiority had not been achieved.<sup>151</sup>

Kenney also employed B-24s and P-47s (neither originally designed for the CAS mission) that he received due to the fact that forces in Europe preferred B-17s and P-51s. Europe remained the US main focus until after victory over Germany had been reasonably secured.<sup>152</sup> In sum, Kenney effectively employed aircraft designed for other missions (by adapting them for tactical air use) to accomplish CAS in the Pacific.

Aircraft designed for and considered appropriate for tactical air employment prior to World War II met with far less success. A-20s and B-25s (light and medium bombers, respectively) performing CAS had difficulty finding, hitting, and damaging their targets. They did however, do damage to friendly troops.<sup>153</sup> To be fair, a big problem for all aircraft, regardless of type, was identification of troops (friendly and enemy) in the thick Southwest Pacific island jungles.

Kenney faced a less lethal AAA threat than air commanders in the European theater. Japanese AAA severely lagged that of the other major powers in numbers and accuracy. Thus, their AAA presented some danger,<sup>154</sup> but overall was less of a threat to US aircraft flying CAS.<sup>155</sup>

**Sicily/Italy.** The North American A-36 Invader, a derivative of the P-51A Mustang fighter was actually reconfigured (dive brakes were wired shut) to essentially make it a P-51 fighter. This aircraft was the highest performance dive-bomber of the time; it could defend itself against enemy fighters at low altitudes, while also performing "shallow diving attacks, and hedgehopping strafing runs at high speed."<sup>156</sup> Unfortunately, the Intruder gained notoriety

for its use in numerous instances of friendly fire and its extremely vulnerable cooling system. The Italian campaign marked the use of heavy and medium bombers for CAS. Fighter-bombers proved more successful and survivable than designed dive-bombers.<sup>157</sup>

As mentioned, AAA was a much more significant threat in Europe than the Pacific. In August 1943 effective German flak, AAA, assisted almost 40,000 German and 62,000 Italian troops, and much of their equipment, in successfully withdrawing/escaping from Sicily.<sup>158</sup>

**France.** The most successful US CAS aircraft in the Allies' battle to retake Western Europe was undoubtedly the P-47 Thunderbolt, a converted fighter aircraft. This multirole fighter-bomber, originally designed for air superiority operations, had a radial piston engine (more survivable to ground fire than liquid-cooled engines), could carry a reasonable weapons load (bombs and rockets), and carried powerful gun armaments (eight .50-caliber machine guns) for strafing.<sup>159</sup>

Congressional funding issues during the war also effected the CAS aircraft debate. In a letter dated 29 June 1944 from General Arnold, commanding general, Army Air Forces, to General Spaatz, commanding general, US Strategic Air Forces in Europe, Arnold explained there would be no new aircraft development until after the war due to congressional concern over the public debt.<sup>160</sup> The AAF would fight the remainder of the war with existing air assets, though innovative enhancements were made to many of these aircraft to improve their flexibility and usefulness.

Germany introduced double fuses (contact and timed) to AAA in late 1944 to greatly improve gun effectiveness. However, this significant improvement occurred too late to make a difference in the war's outcome.<sup>161</sup> Nevertheless, US aircraft flying CAS missions against German troops were significantly less effective when confronted by AAA than when AAA was absent.<sup>162</sup> "Flak downed most of the American fighters lost during the war, the bulk of these in strafing attacks."<sup>163</sup> Airmen learned important lessons for dealing with AAA for subsequent conflicts (i.e., avoid flak concentrations, fly irregular courses, fly only a single pass over targets, use sun and terrain for protection, and employ chaff and jammers to degrade radar).<sup>164</sup>

## Summary

At this point we have seen several themes emerge to indicate a divergence between ground and air thoughts on the use of CAS. First, while air superiority was consistently recognized by all parties as the number one air priority, the remaining prioritization of air functions varied between the services. Additionally, both ground and air agreed air superiority was a necessary prerequisite for successful CAS operations. Second, ground commanders slowly became used to fighting in an environment of friendly air superiority and in some instances enjoyed dedicated air support at lower than

theater levels (decentralized control). Third, airmen and most ground commanders clearly differed over enemy centers of gravity. Airmen tended to look more at deeper, more strategic targets within an enemy system as a whole, while soldiers focused more on the frontline enemy fielded forces. The exceptions to this rule appear to have been the highest ranking army officers, like Eisenhower and Marshall. Perhaps because they were responsible for the most effective use of all military assets, their focus also considered using airpower for deeper targeting. Fourth, by the end of World War II the real issues between soldiers and airmen had become the CAS (Army) versus interdiction (AAF) prioritization issue and the centralized (AAF) versus decentralized (Army) control of tactical air assets issue. Fifth, C<sup>2</sup> was a problem for CAS up through World War II (control/coordination, equipment, and training). Sixth, airmen and soldiers disagreed over what type of aircraft should perform CAS, single versus multipurpose aircraft. Seventh, military budgets played an influential role in what weapon systems, equipment, and level of training the services brought to each conflict. Therefore, all services were forced to make hard choices regarding their own and other services' best interests. As this study demonstrates, these same issues remained in the forefront through the Korean War.

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## Chapter 3

# Close Air Support The Korean War

*Air power is not flying artillery or jet-propelled cavalry; it is the sum of the means necessary to dominate the air. To retain its greatest asset, flexibility, the integrity of the US Air Force must be guaranteed.*

—Col Francis C. Gideon  
*Military Review*, May 1951

### Introduction

Arguably the single most significant event affecting the CAS relationship between the Army and the Air Force occurred in September 1947; the Air Force was established as an independent service. The Air Force now enjoyed coequal status with the Army and legally exercised full control of its assigned air assets. The Army and Air Force debate on CAS issues continued through the Korean War and continues to this day.

The services continued to differ over the prioritization of airpower asset use. However, as mentioned previously, the difference had narrowed to one of prioritization between CAS and interdiction. And while the issue of air asset ownership was settled in 1947, the issue of appropriate apportionment for employment was far from over. Additionally, the issue of an appropriate C<sup>2</sup> system was still not settled. Inadequate communications equipment, training deficiencies, and a failure to include provisions for Navy and Marine CAS assets in a supposed joint C<sup>2</sup> system, affected some of the Army/Air Force areas of disagreement. Finally, there remained disagreement between the services on whether to procure an aircraft dedicated to the CAS mission or one capable of performing multiple missions, in addition to CAS.

### Pre-Korea

**Priorities in the Employment of Airpower.** As already mentioned, FM 100-20 established air priorities as air superiority, strategic bombardment, interdiction, and (finally) CAS. Additionally, FM 100-20 declared land and airpower as coequal and interdependent forces, with neither auxiliary to the other.<sup>1</sup> A revised FM 31-35, *Air-Ground Operations* (1946), specifically addressed the tactical employment of aviation based on the Allied combat system employed in Europe from 1944 to 1945. A theater air commander would establish air priorities based on the overall theater force commander's

guidance.<sup>2</sup> The theater air commander "would assign a tactical air command or air force to support each army group and army."<sup>3</sup> The lowest level for determining air mission priorities was set at the tactical air force level. The senior air officer, or director of operations within each joint operations center (JOC), determined which missions to fly based on the tactical air force commander's priorities. According to FM 31-35, ground and air commanders shared coequal status in determining tactical air priorities.<sup>4</sup> Air commanders were to coordinate and cooperate with their ground force counterparts.<sup>5</sup> However, because airmen had ultimate control of tactical air employment, the system naturally favored their priority of using tactical air assets for interdiction over using them for CAS.

Senior army leadership disagreed with the logic of allowing air commanders coequal status in determining tactical air priorities. What would assure they would receive critical (as army commanders viewed it) CAS? Several joint tactical air exercises between 1947 and 1950, and particularly Operation Swarmer in April-May 1950, highlighted problems in the existing CAS system.

### **Ownership and Apportionment of CAS Assets**

Again, the 1946 revision of FM 31-35 emphasized the theater air commander's absolute authority over all tactical air forces. This revision constituted a codification of procedures developed during World War II European operations between the United States 12th Army Group and Ninth Air Force from 1944 to 1945. Although answering directly to the overall theater forces commander, the theater air commander made all assignments of tactical air commands and air forces to support army groups and armies.<sup>6</sup> Each tactical air force commander worked in cooperation with his army counterpart through a JOC, collocated with the particular army counterpart headquarters. While CAS missions required both air and ground approval, air force ownership of assets tended to determine which missions would be flown.<sup>7</sup> Therefore, airmen both owned and apportioned Air Force CAS assets under this system.

These procedures worked well during the post-Normandy land campaign where the Marines and Navy were no longer contributing air assets to the fight. The problem lay in Air Force, as well as the other services, neglect to establish a manual governing employment authority (or operational control) of Marine and Navy air assets within a theater of operations. It seemed all General Kenney's lessons from air operations in the Southwest Pacific had been neglected. (While Navy and Marine specific air procedures are not critical to this study, their impact on Air Force-Army relations is important.)

### **CAS Command and Control System**

CAS C<sup>2</sup> consisted of both a request system and an air direction (control) system, both of which were regulated through the JOC. The Army's tactical air request (TAR) system initiated when a ground commander, at division or lower level, requested CAS up through his chain of command to the army level.

These requests were collated by army representatives in the air-ground operations section within the JOC to prioritize the CAS requests from a ground commander's perspective. "Ground forces provided the communications system supporting the request network."<sup>8</sup> However, this system only represented the request side of CAS (i.e., what the ground commander felt he needed in the way of air support).

"The actual conduct of operations remained firmly in the hands of air officers."<sup>9</sup> The tactical air commander exercised control of operations through the Air Force's tactical air direction (TAD) system. Based on Army requests to the JOC, and an air force commander's established priorities, the senior air officer within the JOC passed approved requests from the combat operations section to the tactical air control center (TACC). This TACC acted as the air force's C<sup>2</sup> controlling agency of actual CAS assets. Although joint planning occurred between air wing commanders and a ground force liaison party, actual direction of air attacks was controlled through the TACC or a subordinate tactical air direction center (TADC). Airmen controlled aircraft by performing as ground forward air controllers, members of ground tactical air control parties (TACP), or airborne tactical air coordinators. FACs and tactical air coordinators "guided the attacking aircraft onto the target and away from friendly troops through combinations of voice communications, marking rockets, artillery smoke shells, and electronic signals."<sup>10</sup> Additionally, the Air Force added radar-equipped tactical air direction posts (TADP) to the TAD system to provide at least a primitive attack capability whenever FACs and tactical air coordinators were unable to see targets.<sup>11</sup>

Operation Swarmer identified several deficiencies in the existing CAS C<sup>2</sup> system. There were major defects in both the air request and air control systems. Neither the Army nor the Air Force could sufficiently man or equip the air-ground operations or JOCs they had created. "The TACPs showed little skill or interest in their mission, and the Air Force's communications capability appeared good only in comparison with the Army's worst performance."<sup>12</sup> Inadequate training<sup>13</sup> and communications equipment caused delays in the JOC-centered control system. This resulted in unacceptably long response times for CAS sorties.<sup>14</sup>

Tactical Air Command (TAC), actually created in 1946 before the Air Force/Army split, was made responsible for all Air Force tactical air assets and training. Consequently, TAC inherited the ongoing C<sup>2</sup> controversy. Unfortunately, 1946-1950 proved lean budget years for TAC, with the lion's share of Air Force funds going to Strategic Air Command (SAC).<sup>15</sup> In fact, TAC lost its major command status for a short time in the late 1940s.<sup>16</sup> This shortage of funds would subsequently affect tactical air training, weapon systems, and equipment.

### **Single or Multipurpose Aircraft Debate**

The Air Force's tendency away from CAS was apparent in its decisions in purchasing new aircraft. With limited funds and current technology, the Air Force appreciated the difficulty in developing an all-purpose fighter. Such a

fighter would have to be fast enough to intercept future enemy jet bombers but also able to travel slowly enough over CAS targets and possess long flight-endurance characteristics.<sup>17</sup> Air superiority had to come first and that meant procuring aircraft like the F-86.

During Operation Swarmer, jet fighter-bombers (multipurpose aircraft) executed accurate CAS strikes against ground targets. However, airmen expressed concern over the fighter-bomber's apparent weaknesses in several areas: vulnerability to enemy air attack, low payloads, need for long runways, difficulty in identifying ground targets, and limited time over target.<sup>18</sup> The last two areas of weakness, identifying targets (command and control) and sufficient loiter time in the target area, would be significant problems for airmen to tackle in Korea.

## **Korea**

The Korean War presented the newly established Air Force an opportunity to display its ability to manage and control theater air assets in combat. While coalition military operations fell under the jurisdiction of United Nations Command (UNC), the Korean venture was essentially a US-run show. American air organizations under UNC were US Air Force's Far East (FEAF), to include Fifth Air Force; the 1st Marine Air Wing (1st MAW); and Task Force 77, composed of the Navy's carrier air groups.<sup>19</sup> The Navy and Marines brought their CAS doctrine, much of it developed from their experience with amphibious landings in the Pacific during World War II, to Korea. In contrast, the Air Force brought its CAS doctrine and experiences primarily from North Africa, Italy, and Europe to the same theater. Confusion, compromise, and innovation might best describe the CAS system hashed-out in Korea from 1951 to 1953.

## **Priorities in the Employment of Airpower**

With air superiority established early in the war,<sup>20</sup> few strategic targets in North Korea,<sup>21</sup> and political restrictions against striking strategic targets in China (North Korea's main supporter along with the Soviet Union)<sup>22</sup> the prioritization debate centered on whether to use air assets for CAS or interdiction missions.

On 1 September 1950, TAC and Army Field Forces published *Joint Training Directive for Air-Ground Operations (JTD)*.<sup>23</sup> Though neither service really accepted the directive as binding, the necessity of implementing something for use in Korea led to its adoption.<sup>24</sup> The directive was essentially a restatement of FM 31-35, with few modifications. Airmen felt the JTD threatened their ability to maintain airpower priorities, while the Army worried the JTD did not give ground commanders ample control over CAS. Ground commanders felt they should have more say in the actual tactical targeting prioritization.<sup>25</sup> Ultimately, this system left target prioritization under the control of airmen; and airmen favored interdiction over CAS.<sup>26</sup>

During early fighting, when UN troops were vastly outnumbered and short of heavy artillery,<sup>27</sup> and in periods of significant force movement (offensive and fighting retreat<sup>28</sup> operations), CAS became more of an immediate priority.<sup>29</sup> There has never been much of a doctrinal dispute over placing the CAS mission temporarily ahead of interdiction on an emergency basis.<sup>30</sup> However, the JCS, MacArthur as UNC commander, and most Air Force commanders all placed interdiction as a higher priority on a day-to-day operational basis.<sup>31</sup> Additionally, in early 1951, the JCS told MacArthur he would not receive any more American divisions in Korea. Heavily outnumbered in raw forces,<sup>32</sup> this news reinforced MacArthur's reliance on the use of air for interdiction of North Korean supply lines over CAS.<sup>33</sup> He hoped interdiction would keep Chinese troops and supplies from the front lines. Between January and June 1951, FEAF flew 54,410 interdiction and only 22,800 CAS sorties.<sup>34</sup>

The Air Force, Navy, and Marines all agreed air superiority was the first priority of airpower. However, where the Air Force clearly favored interdiction over CAS,<sup>35</sup> the Navy and Marines viewed these two missions as equally important.<sup>36</sup> The Army was also beginning to "place CAS on an equal footing with interdiction, as the situation demanded."<sup>37</sup> Some commanders in the Army were convinced the requirements for CAS should always have been a higher priority than interdiction due to the chronic shortage of organic artillery throughout the entire Korean War.<sup>38</sup> Navy and Marine doctrine gave precedence to either interdiction or CAS depending on the enemy situation and amphibious landing force commander's overall plan.<sup>39</sup>

Within FEAF (Fifth, Thirteenth, and Twentieth Air Forces), only Fifth and Thirteenth Air Forces had actual CAS capabilities.<sup>40</sup> Further, Fifth Air Force's area of responsibility included Korea.<sup>41</sup> In contrast, most Marine assets were best suited for CAS and/or interdiction missions. Marine air's primary mission was CAS, and it greatly depended on the Navy and Air Force to ensure air superiority and interdiction in its amphibious landing areas.<sup>42</sup> The Marine tactical air system emphasized the priority of directly supporting Marine ground troops who were counting on CAS as a form of dedicated flying artillery.<sup>43</sup>

Even with most of Navy aviation under cooperation control of FEAF, and Marine air assets under operational control of Fifth Air Force,<sup>44</sup> there were still disagreements on the priority between CAS and interdiction. When Adm Arthur D. Struble, Seventh Fleet commander, was ordered to conduct extensive interdiction strikes along the North Korean eastern coast, he complained the sorties would be better used for CAS.<sup>45</sup> His air assets did execute their assigned interdiction missions, but the incident illustrated the difference of opinion between services. Marines naturally argued for CAS over interdiction in most cases, as their doctrine would predict, because they wanted to protect their ground units which lacked sufficient organic firepower in the form of heavy artillery.<sup>46</sup> Many Army ground commanders also expressed their lack of confidence in the true effectiveness of air interdiction to isolate the battlefield in Korea.<sup>47</sup>

The issue of air priorities subsided temporarily in the fall of 1951 when the war stalled into a stalemate and the US Eighth Army took up a static posture. At that time, the Navy, Army, and Air Force all agreed interdiction would retain priority over CAS.<sup>48</sup> FEAF believed the best way to end the war was with air attacks on the North Korean transportation system, as well as attacks on North Korean economic and military targets between the front line, or main line of resistance, and the Yalu River. "Between July 1951 and July 1953 the Air Force flew 155,000 interdiction sorties and approximately 47,000 close air-support sorties."<sup>49</sup> Fifth Air Force allocated only 13 percent of its daily sorties to Eighth Army for CAS because of the emphasis on interdiction and lack of faith in the effectiveness of CAS.<sup>50</sup>

After reevaluating the effects of the interdiction campaign in the summer of 1952, UNC and FEAF decided to extend the target list beyond the North Korean transportation system.<sup>51</sup> In addition, more attention was given to conducting increased CAS missions to destroy Communist military positions.<sup>52</sup> Gen Matthew Ridgway, the third UNC commander, claimed the Korean interdiction campaign "simply could not keep the enemy from bringing in the armament he needed . . . it could not isolate the battlefield."<sup>53</sup> However, the fact remains, the emphasis was retained on interdiction, despite indications it was not achieving the desired results.<sup>54</sup> During the entire Korean War, 1950-53, only 10-15 percent of the entire air effort was devoted to CAS. Regardless of statistics, most Marine and Army ground troops remained convinced CAS was essential and necessary to complement artillery fire.<sup>55</sup>

### **Ownership and Apportionment of CAS Assets**

Although previous experience and the Key West Agreement of 1948 might have led one to believe that all tactical air assets would automatically be assigned to a single theater air commander, this was far from the case. "The Key West Agreement specified that the Army had primary interest in operations on land, the Navy in operations at sea, and the Air Force in operations in the air. Forces developed to meet the requirements of primary functions were to be employed in collateral functions that supported and supplemented the other services in carrying out their primary functions."<sup>56</sup> In fact, in 1950, Lt Gen George E. Stratemeyer, FEAF commander, unsuccessfully requested that MacArthur place all air units engaged in the Korean War under his operational control.<sup>57</sup> While the actual ownership of tactical air assets was indeed clear in Korea, apportionment rights and determining who would have operational control of the assets within the operating theater remained unsettled.

To begin, even within the Air Force, Stratemeyer had to request operational control of three Strategic Air Command B-29 groups for use in CAS operations.<sup>58</sup> Once approved by the JCS, the Far East Bomber Command operated at the same level and under the same FEAF operational control as Fifth Air Force.<sup>59</sup> By placing the bombers under the operational control of the theater air commander, the Air Force closely imitated the command

arrangement used during the North African campaign.<sup>60</sup> This arrangement placed all air assets under the operational control of a single air commander. This practice was also significantly different than the operational control maintained during most of the fighting in Europe during World War II. In Europe, heavy bombers performed an independent strategic mission against German industry under the operational control of US Eighth Air Force. Finally, in preparation for the Normandy invasion and in the subsequent land campaign across western Europe (during the last year of the war), some heavy bombers were diverted to assist tactical air forces in operational interdiction and CAS missions.

As noted, changes in operational control occasionally resulted in cases of fratricide due to unfamiliarity of newly acquired air assets to an established C<sup>2</sup> system. In Korea, Fifth Air Force assumed primary responsibility for tactical air operations within FEAF.<sup>61</sup> Stratemeyer also requested MacArthur make him responsible for all air operations as the FEAF commander.<sup>62</sup> Airmen argued their case to bring Air Force, Navy, and Marine tactical aviation assets under one centrally controlled system, commanded by a single airman.

The Navy strongly disagreed with placing its air assets under operational control of the Air Force for either interdiction or CAS.<sup>63</sup> Although North Korea and China posed no real threat to US command of the sea, the Navy argued the Key West Agreement gave it the right to exercise operational control of its carrier assets.<sup>64</sup> Stratemeyer and other airmen argued the Air Force should maintain operational control of all naval air assets because naval air had been brought into the Korean theater to assist the land campaign.<sup>65</sup> These naval air assets provided supplemental aerial firepower and were not brought in so much to ensure the command of the sea.<sup>66</sup> Stratemeyer also accurately predicted that without coordination and control of all air assets flying in Korea there was the potential for confusion, redundancy of missions, and fratricide.<sup>67</sup> The end result was a victory of sorts for the Navy when MacArthur—through his Far East Command (FECOM)/UNC, chief of staff, General Almond—obscured the issue by only granting the FEAF commander “coordination control” of naval air assets, instead of operational control.<sup>68</sup> In other words, FEAF could only veto naval air missions; and that could only happen if the Navy or FECOM chose to inform it of the missions at all.<sup>69</sup>

Therefore, from 1950 to 1952 the Navy looked at its air role as one of supporting FECOM (the theater commander), not FEAF (the air component commander), and subsequently only coordinated its air strikes with FEAF (through the Fifth Air Force’s Joint Operations Center) after receiving targeting guidance from FECOM.<sup>70</sup> Further, the Navy insisted on interdiction targets along the Korean east coast and CAS targets within a specified sector of the front on the eastern portion of the Korean Peninsula. The Air Force C<sup>2</sup> system’s inability to adequately control all naval air assets and negotiations between the Task Force 77 and Fifth Air Force commanders resulted in naval aviation assigned to a specific part of the fighting front.<sup>71</sup> It was not until mid-1952 (with no further guidance from FECOM) that the Navy finally agreed FEAF should be the controlling authority for all air operations.<sup>72</sup>

During the last year of the war, FEAF exercised operational control over Navy air assets for interdiction and CAS missions.

Ordinarily, the Marines exercised operational control of their own air assets for the duration of their assigned mission, per the Key West Agreement. Their World War II experience in the Pacific emphasized decentralized control of CAS assets for quick response times.<sup>73</sup> Their assigned mission was amphibious operations; and their air assets directly supported Marine ground units as a form of aerial firepower to supplement a lack of heavy, organic artillery.<sup>74</sup> Because, doctrinally, Marine units would be quickly replaced by or integrated into Army forces once the objective area was secured, this arrangement caused little short-term concern to a theater air commander desiring to exercise operational control over all theater air assets.<sup>75</sup> However, one key factor influenced the Marines to request operational control of their air assets even after obtaining amphibious objectives after the Inchon landing, in September of 1950. Namely, a significant number of Marines were assigned to the Army (X Corps) for a sustained land campaign in direct follow-on operations to Inchon; Marines wanted to use their own CAS assets to support their own ground troops.<sup>76</sup> Further, the Marines asked to be assigned an exclusive area of operation to support a section of Eighth Army's front.<sup>77</sup> FEAF and Fifth Air Force protested this idea and were eventually assigned operational control of Marine air. The Air Force did concede that whenever the tactical situation allowed, it would assign Marine air to support Marine ground units. Notably, General Almond, FECOM chief of staff and later X Corps commander, unsuccessfully argued to retain Marine CAS, which he had controlled since the Inchon landing as dedicated air support for his X Corps ground forces (Army and Marine).<sup>78</sup>

With the Army no longer owning the tactical air assets it required for CAS, it was very much concerned with tactical air apportionment. General Almond's opinions were typical of other Army commanders' feelings on the subject of apportionment. Briefly (because a subsequent chapter is devoted to General Almond), Almond wanted a CAS system similar to the one he was familiar with from his experience as a division commander in Italy during World War II.<sup>79</sup> This system can best be described as a push-CAS system.<sup>80</sup> In a push-CAS system tactical air assets were preassigned to frontline units engaged in combat and sent out to these units on a regular schedule. This type of dedicated, continuous feed, system ensured adequate CAS to ground forces but also divided air assets into many small packets. This system also resulted in many nonproductive sorties and poor matches between targets and type of ordnance.

In cases where preassigned CAS was not needed, the air assets were unproductive. A push-CAS system assumed (1) sufficient tactical air assets to supply all frontline forces; (2) aircraft and basing capabilities for necessary range and loiter time over the front; and (3) enough air assets to also accomplish higher priority interdiction missions. Air Force air capabilities in the Korean theater, especially in the summer of 1950, could not hope to

satisfy the first two assumptions.<sup>81</sup> Additionally, even the eventual adding of Navy and Marine air assets to FEAF's pot did not produce enough tactical air to supply a push-CAS system and at the same time accomplish the higher priority interdiction mission.<sup>82</sup> Therefore, the Air Force recommended and supplied the Army with a pull-CAS system that required ground forces to request CAS when needed from a central pool of air assets.

As in North Africa, the Korean pull-CAS system operated with a central pot containing a finite number of CAS assets (many sitting on ground alert)<sup>83</sup> which Army commanders could request for CAS missions. An obvious disadvantage to this system was the delay time between an Army request and Air Force fulfillment of CAS to Army units. However, the advantages included (1) fewer air assets dedicated for CAS and thus more sorties available for other missions; and (2) the potential for greater numbers and concentration of CAS assets on demand at a specific point along the fighting front in an emergency.

Unfortunately, to ensure adequate CAS for ground forces this pull system made two incorrect assumptions, both of which are discussed in the next section: adequate Air Force pilot close-air training and smoothly functioning C<sup>2</sup> request and direction systems. Problems within the CAS C<sup>2</sup> system and a perceived Air Force lack of interest in CAS operations led to the Army unsuccessfully proposing a revision to air-ground doctrine in November 1950.<sup>84</sup> The Army proposal, spearheaded by Almond, called for granting "field army commanders and their corps subordinates operational control of fighter-bombers on a scale of one air group per division."<sup>85</sup> In other words, the Army was again arguing for decentralized control of CAS assets. The Burns Board of 1951 rejected Almond's idea for more decentralized control, but recommended reforms within the Army CAS request system, better training of air-ground personnel, and "an extension of the Army air-ground staff down to the battalion level."<sup>86</sup> Evidence was mounting that inadequate training and a dysfunctional CAS C<sup>2</sup> system were the major sources of Air Force-Army CAS friction.

### **CAS Command and Control System**

The CAS C<sup>2</sup> system employed in Korea was imperfect for its mission and created tension between the Air Force and Army.<sup>87</sup> As already mentioned, the problems caused by inadequate CAS C<sup>2</sup> led to increased friction over CAS ownership and apportionment. Specific problem areas within the CAS system employed in Korea included inadequate communications equipment, training deficiencies,<sup>88</sup> and a failure to consider Navy and Marine assets in a joint system.<sup>89</sup> Although the September 1950 JTD specified requirements in the first two areas for both the Army tactical air request (TAR) and Air Force tactical air direction (TAD) systems, changes were slow in coming.<sup>90</sup> As shown below, the problem did not appear to be so much the TAR and TAD system concepts, but rather the proper implementation of all their required elements.

During the first week of the war, Fifth Air Force sent "an extemporized, undermanned, and ill-equipped Joint Operations Center"<sup>91</sup> to Korea. The initial TAD system established in Korea performed comparatively better than

the initial TAR system, but only because the Army neglected, despite FM 31-35 and JTD guidance, to plan for or set up a TAR system at all.<sup>92</sup> The eventual CAS C<sup>2</sup> system used in Korea by war's end resembled the Air Force/Army system already described in the "Pre-Korea" section of this chapter, but with real joint capabilities.<sup>93</sup> Tactical air requests and operational control for executing these requests were accomplished through the Army TAR and Air Force TAD systems, respectively. Both systems were coordinated through a JOC, collocated with Army headquarters (see appendix B). Under this system "the division remained the lowest tactical formation that could assume permanent assignment of a TACP."<sup>94</sup> However, TACPs could be temporarily attached down to the company level to perform air direction missions. This coincided with Army doctrine which allowed little initiative below the field army and corps levels anyway.<sup>95</sup> Unfortunately the C<sup>2</sup> system in Korea had to experience some growing pains before ever approaching the effectiveness envisioned in FM 31-35 or the JTD.<sup>96</sup>

The Army began the Korean War believing their organic artillery would provide sufficient firepower within the bomb line and that it would only employ airpower for targets outside artillery range. Therefore, neither the Army, nor the Air Force, planned to practice integrated fire support except in well-defined instances.<sup>97</sup> Well-defined circumstances included clearly marked targets, readily identifiable friendly troop positions, positive control from air and ground controllers, and nearly guaranteed safety from friendly artillery fire.<sup>98</sup> Geographically, much of Korea's gray-green ridges and valleys were almost indistinguishable from each other from the air, making target identification difficult.<sup>99</sup> Throughout the war, and particularly during the first few weeks of US and coalition involvement, numerous instances of air-to-ground friendly fire were reported.<sup>100</sup> When the services were forced to regularly employ integrated fire support under fluid circumstances, the existing C<sup>2</sup> system could not adequately handle the job.<sup>101</sup> The problems seem to lay in the elements necessary to operate the C<sup>2</sup> system described in the JTD; specifically, proper communications equipment and adequate training. Another important factor, that even the JTD had overlooked, was integrating Navy and Marine forces into a joint air system.

Pre-Korea joint exercises had already recognized problems with CAS C<sup>2</sup> system equipment. Unreliable radios and inadequate communications aircraft contributed to CAS C<sup>2</sup> problems. For example, TACP's manpack TRC-7 radios proved unreliable in supporting the TAD.<sup>102</sup> Due to radio problems TACPs were ordered not to advance forward of infantry regimental headquarters. This essentially limited ground FACs to the status of air liaison officers.<sup>103</sup> With FACs restricted from participating in TAD, tactical air coordinators were forced to direct air strikes. Unfortunately, "airborne TACs began the war flying light observation planes ill-equipped for front-line duties."<sup>104</sup> But the 6147th Tactical Control Squadron tactical air coordinators soon switched to an Air Force two-seat trainer aircraft, the North American T-6.<sup>105</sup> The aircraft's limited self-protection ability was not a significant factor with complete air superiority. Both an Air Force pilot and Army air observer

crewed the TAC aircraft; the two-man team was known as the Mosquito.<sup>106</sup> The T-6's advantages included its ability to carry all radio equipment needed to accept CAS requests from ground commanders and also direct air strikes by friendly fighter-bombers. The T-6 used the eight-channel ARC-3 radio to communicate with fighter-bombers for CAS and the less reliable SCR-300 to coordinate with Army ground units.<sup>107</sup> Typically, Mosquitoes would visually spot the enemy targets and then direct CAS planes to strike these targets. Due to communications limitations, this procedure was usually accomplished without coordinating with friendly artillery and infantry.<sup>108</sup> During the Pusan perimeter defense, TACs directed 90 percent of Air Force CAS with minimal personnel and aircraft losses.<sup>109</sup> Additionally, radio equipment was incompatible among CAS aircraft. Fighter-bombers, like the F-80C, enjoyed superior radio communications (carrying the eight-channel VHF AN/ARC-3 radio) over the F-51 Mustang (carrying only a four-channel VHF SCR 522 radio).<sup>110</sup>

Another C<sup>2</sup> equipment problem area involved the lack of joint interoperability in communications equipment and limitations in the Air Force/Army C<sup>2</sup> system. Deficiencies in this area precluded fully utilizing Marine, Navy, and Army aircraft in conjunction with Air Force aircraft in the most effective CAS C<sup>2</sup> system. Incompatible Navy and Air Force communications procedures and encryption at top levels handicapped FEAF's coordination with the Navy's Task Force 77.<sup>111</sup> Also, lack of confidence in TAR/TAD radio equipment reliability, and insufficient coordination between Army ground controllers and FACs, resulted in directing aircraft to perform air strikes well forward of friendly forces.<sup>112</sup>

The Air Force TAD system frequently could not handle CAS supplied by the Marines and Navy. Lack of Air Force/Navy communications interoperability prevented the JOC from discovering what Navy forces were inbound with CAS assistance. Navy help might of been as great as two full squadrons launched from a single carrier. This congestion of Navy aircraft, in addition to Air Force and Marine CAS planes responding to the same requests, often caused saturation of the Mosquito system.<sup>113</sup> The inability of the TAD system to handle enough CAS strikes frustrated many CAS pilots.<sup>114</sup>

Finally, Army L-19 aircraft added stress on communications. The Army decided early to expand the aircraft's normal reconnaissance and artillery spotting duties to include requesting and directing air strikes. This idea created too much congestion around the bomb line for the JOC/TACC C<sup>2</sup> system resulting in an L-19 and fighter-bomber midair collision and several other near-misses.<sup>115</sup> The Air Force eventually persuaded the Army to stop using the L-19 in this role. Often Air Force, Navy, and Marine CAS aircraft appeared able to respond to requests, but arrived on the scene only to find no one ready to direct them to a target.

Severe training deficiencies both within the Air Force and among the services existed in most parts of the system at the start of the Korean War. Innovation and adjustment solved some problems, but overall poor C<sup>2</sup> caused friction over the CAS issue among the services, particularly between the Air Force and Army.

Air Force pilots, particularly in Fifth Air Force, had been trained for an air defense role, not ground attack.<sup>116</sup> This entailed a lack of instruction on CAS C<sup>2</sup> systems.<sup>117</sup> The problem was magnified by the primary aircraft's (F-80C) short loiter time caused by small fuel loads and distant basing.<sup>118</sup> Additionally, FEAF communications units began the war at only 65 percent of peacetime strength and were manned by underskilled personnel.<sup>119</sup>

The services also suffered from several joint training problems and disagreements.<sup>120</sup> Joint service coordination was minimal before Korea.<sup>121</sup> The Air Force and Army also disagreed on the issues of air- versus ground-based FACs and FAC qualifications. General Almond led the debate claiming ground-based FACs could locate targets as well as airborne TACs. Almond was also convinced that Army personnel could perform well as FACs.<sup>122</sup> However, the Air Force insisted only its personnel were qualified to perform as FACs. The Air Force and Army also differed over the requirement for detailed presortie briefings to pilots. The Army argued that if TAD was adequately functioning, presortie briefings should not be necessary.<sup>123</sup>

The Air Force also made some adjustments to compensate for deficiencies in its own and portions of the Army's CAS C<sup>2</sup> system. In July 1950, TACPs, with FACs assigned, attempted to direct air strikes near the front line. Unfortunately, failure to coordinate adequate infantry protection for these exposed airmen resulted in several deaths. Unreliable TACP radio equipment, the loss of almost all the AN/ARC-1 TACP radio jeeps to enemy fire and inability to quickly traverse rough terrain caused the withdrawal of FACs from the front early in the war.<sup>124</sup> While the Air Force regrouped, it temporarily responded to the situation by allowing the airborne TACs to handle all aspects of requesting and directing CAS at the front. By September 1950, during the Pusan breakout, the TACs' growing competence was evident in the devastation of Communist forces close to the front.<sup>125</sup> The Air Force also improvised its own TAD system when an initial Army TAR system failed to materialize. To ensure at least a rudimentary CAS request system for the Army, Fifth Air Force used its own communications equipment and staff to form an ad hoc tactical air request system.<sup>126</sup>

Other C<sup>2</sup> issues arose among the services. Some caused increased friction between the Air Force and the other services over CAS, while others were worked out. One C<sup>2</sup> problem which caused an enormous rub between the Air Force and Army over CAS was the soldiers' increased expectations based on their experience with Marine CAS. General Almond's X Corps was task organized for amphibious operations;<sup>127</sup> and therefore "enjoyed an abundance of aircraft and control agencies."<sup>128</sup> Briefly (explained in greater detail in the next chapter) General Almond's perception of CAS was greatly influenced by the high quality of dedicated Marine CAS he received during the first six months of the war. Specifically in regard to CAS C<sup>2</sup>, General Almond's X Corps experienced two highly responsive CAS request and direction C<sup>2</sup> systems in succession, first from the Navy (at Inchon) and then the Marines (on the drive to Seoul and later operations on the Korean east coast).<sup>129</sup>

Armed with enough Air Force and Marine TACPs to supply each of his infantry battalions with at least one front line FAC,<sup>130</sup> and enough push-CAS on-orbit air assets to supply dedicated tactical air support, Almond quickly became accustomed to "CAS on demand."<sup>131</sup> Almond was completely sold on Marine CAS, especially its C<sup>2</sup> system's quick response time to ground commanders' requests.<sup>132</sup> In November 1950, his enthusiasm with Marine CAS led Almond to officially and frequently complain to levels as high as the JCS about perceived inadequacies in the Air Force CAS system. One of Almond's major complaints was that the Air Force needed to provide more TACPs to tactical ground units.<sup>133</sup> His impatience with the Air Force CAS C<sup>2</sup> system led Almond to create additional TACPs within X Corps that were manned and equipped by Army officers and enlisted men. "Almond ensured that every battalion or similar tactical unit in X Corps had a TACP and ground FAC."<sup>134</sup> Many Army officers believed increased TACPs would result in more CAS. This effort increased CAS coordination; however, without additional CAS sorties it could hardly produce more CAS.<sup>135</sup>

Two high-level, joint boards investigating the Army's complaints came to essentially identical conclusions. The Air Force/Army CAS C<sup>2</sup> system, as established in FM 31-35 and the JTD, was basically sound.<sup>136</sup> However, "the Air Force and the Army had not yet provided the trained staffs, control agencies, and communications systems necessary to make the doctrine work."<sup>137</sup> In other words, the services needed to work out their problems regarding poor communications equipment and inadequately trained C<sup>2</sup> personnel. In fact, the issue never really died and reappeared in the summer of 1952.

MacArthur's replacement as UNC commander, Gen Mark Clark, US Army, initiated a move in July 1952 to create a JOC for every army corps. Although careful not to refight the Army's previous loss over attaining more TACPs, Clark hoped to wrestle control of air strikes away from the Air Force.<sup>138</sup> Clark's plan was for each corps commander to exercise operational control over a dedicated number of tactical air sorties. With no support for his ideas in Washington, and a gentlemen's agreement with General Weyland, FEAF commander, to provide more Air Force TACPs to infantry battalions in certain instances, Clark let his initiative die.<sup>139</sup>

The services were able to reach some agreement over CAS as the Korean War progressed, likely as a result of the hard earned experience they were gathering on and over the battlefield. As CAS was slowly improved, airpower displayed "increased flexibility in supplying close support of our ground forces."<sup>140</sup> First, although the Air Force did not want to give up operational control of any air assets, airmen realized the current C<sup>2</sup> system limitations prevented them from adequately controlling them all. Neither enough interservice cooperation, nor communications interoperability were initially available in Korea for the Air Force to sustain claims of total authority over all tactical air.<sup>141</sup> Therefore, the Air Force struck deals with the other services to work around the problem in Korea.

In August 1950 during the Pusan perimeter defense, the Air Force/Army CAS C<sup>2</sup> system was so overwhelmed with communications problems that the Air Force gladly allowed the Marines to temporarily introduce their own CAS C<sup>2</sup> system.<sup>142</sup> The Marine system, supporting only Marine ground units, performed admirably. The self-contained Marine push-CAS system enjoyed the luxury of dedicated CAS air assets, thorough intraservice training in air request and direction C<sup>2</sup> procedures, superior radio/communications equipment, and experienced CAS pilots (70 percent were veterans of World War II).<sup>143</sup>

In November 1950, the Air Force and Navy agreed to improve communications links between FEAF, the Fifth Air Force JOC, and Navy aircraft carriers. When on station, Task Force 77 agreed to submit a set number of sorties per day to the JOC-Mosquito control system. In turn, the Air Force agreed the Navy should maintain operational control of naval air assets during amphibious operations and that Navy tactical air would be assigned a specific part of the front to reduce confusion.<sup>144</sup>

These instances of compromise were just two cases of many in which the Air Force dealt with the inadequate CAS C<sup>2</sup> system in Korea until it could work out the bugs of established doctrine. Examples of Air Force CAS C<sup>2</sup> failures<sup>145</sup> and stunning Marine successes perpetuated the Air Force-Army tension over the issue. For instance, the worst case of CAS fratricide came on 22 September 1950 as a result of Air Force C<sup>2</sup>. An Air Force F-51 killed or wounded 76 Scottish ground forces after receiving tactical air direction from both a TAC and FAC. Amazingly, the ground FAC was attempting to direct the strike from a position seven miles from the intended target.<sup>146</sup>

On the other hand, numerous examples of successful, even brilliant, instances of Marine CAS C<sup>2</sup> system employment convinced ground commanders the Air Force system must be terribly flawed. During Almond's X Corps' famous retreat from the Chosin Reservoir, in December 1950, Marine CAS destroyed seven Chinese divisions, while the X Corps withdrew intact.<sup>147</sup> At almost the same time, the Air Force was unable to successfully coordinate CAS for Eighth Army's "not so successful" withdrawal from the North.<sup>148</sup>

### **Single or Multipurpose Aircraft Debate**

As previously mentioned, pre-Korean limited military budgets and the Air Force's emphasis on air superiority and strategic airpower precluded the development of a single-purpose aircraft designed specifically for CAS. Further, as has historically been the case, the Air Force began and ended the Korean War with the same basic types of aircraft. The Air Force was only able to modify its existing aircraft assets to adjust to the situation in Korea. Specifically, the Air Force employed the following aircraft at least some of the time in a CAS role: B-26, B-29, F-82, F-84, F-80, and F-51.<sup>149</sup> While all these aircraft made CAS contributions of some kind, the F-80, F-84, and F-51 were far and away the main staples in Air Force CAS.<sup>150</sup> An important point to remember is that when one side has attained air superiority, as the United States did in Korea, many more air assets become CAS capable.

The B-26 Invader, a light bomber, was employed for some CAS, but more often for interdiction of enemy troop formations and lines of communications close to, but at some distance from, the front lines (i.e., enemy vehicles, tanks, and troop columns).<sup>151</sup> Likewise, the B-29, Superfortress, a medium bomber, was occasionally employed for CAS but was usually used in an interdiction role (i.e., bridges and rear concentrations of troops, vehicles, and supplies).<sup>152</sup> Due to weapons inaccuracy, vulnerability to ground fire, and the quick coordination required for time on target, neither bomber was an ideal CAS aircraft. The exception to this rule involved night radar-controlled bombing of enemy troop concentrations behind a well-established front line. Although the Army called this procedure "interdiction and neutralization of enemy concentrations,"<sup>153</sup> it clearly fits this study's definition of CAS (i.e., aerial firepower in close proximity to and in cooperation with, friendly forces to protect, or gain military advantage for, the friendly forces). Using MPQ-2 radar, B-26s and B-29s, in the spring of 1951 "proved to be accurate within 200 yards"<sup>154</sup> while operating "as close as 500 yards from frontline troops."<sup>155</sup>

Fighter-bombers, as was demonstrated in World War II, were much more adept at supplying the type of CAS required for fluid ground operations. The F-82 Twin Mustang, fighter-bomber, in addition to its air-to-air role, was also capable of supplying CAS when needed. However, its primary air-to-ground mission became interdiction (i.e., traffic moving along enemy LOCs between distant enemy rear supply areas and the front lines).<sup>156</sup> The F-84 Thunderjet, also a jet fighter-bomber primarily flew armed reconnaissance. Although the newer F-84 performed well in the air-to-ground role, few were employed for CAS. The Air Force considered them much more valuable for interdiction. Probably because of their higher value (newer technology and a higher price tag) to the United States, and particularly the Air Force, far fewer F-84s were deployed for Korean operations than the older F-80s and F-51s. The Thunderjet also did not deteriorate as quickly in Korea as other aircraft; these newer aircraft were consistently maintained at high mission capable rates.<sup>157</sup>

The F-80 Shooting Star, jet fighter-bomber, began the war as the Air Force's premier air-to-air aircraft. In the first two months of the Korean War, "the F-80s had flown 70 percent of all combat sorties over Korea and had accounted for 85 percent of the enemy's losses to air attack."<sup>158</sup> Early aircraft inadequacies to perform CAS were countered by modifying the aircraft and training American pilots in theater on how to use the multipurpose aircraft for CAS. "Misawa" wing tanks were developed and installed to increase the aircraft's loiter time,<sup>159</sup> while (as previously mentioned) the Mosquito CAS C<sup>2</sup> system became more experienced at effectively using the F-80s when they appeared on the scene.<sup>160</sup> Because the jet had been designed as a short range interceptor,<sup>161</sup> it had no wing racks to carry bombs. After modifications,<sup>162</sup> the F-80 was equipped with 5-inch high velocity aircraft rockets (HVAR) to complement its six .50-caliber nose guns.<sup>163</sup> With these modifications and pilot on-the-job training, the F-80 became a multipurpose aircraft in the Korean theater of operations. The aircraft's major restriction, like the other fighter-bombers and bombers, was that it required well-developed ("longer

and stronger")<sup>164</sup> runways. This requirement meant the F-80s had to fly out of Japan, which also had few runways meeting the F-80's operational needs. Thus, the aircraft were hindered for loiter time by the exhaustive distances they were required to travel before ever arriving for a CAS mission. With air superiority assured, the Air Force decided to convert its F-80 squadrons to the older F-51s which had shown they could provide CAS by their performance during World War II.<sup>165</sup>

The F-51 Mustang, propeller-driven fighter-bomber, which had been replaced by the F-80, was brought back out of mothballs to provide CAS in Korea.<sup>166</sup> The F-51's primary CAS advantage over the F-80 in Korea was its ability to operate from rough, primitive airfields on the Korean Peninsula.<sup>167</sup> Much to ground commanders' delight, this closer basing to the front significantly increased the F-51s loiter time and reduced its response time to CAS requests.<sup>168</sup> Additionally, the Mustang proved more lethal in CAS than the F-80; it could carry napalm which was equally versatile against troops or tanks.<sup>169</sup> Although more susceptible to both air-to-air and ground-to-air fire, the F-51 performed well because neither of these factors proved to be significant enough to hinder its operations. The F-51 was more on par with the Marine F-4U, Corsair, prop fighter-bomber. Again, the Army, particularly General Almond, and the Marines had been extremely pleased with the Corsair's CAS performance.

Poor visibility due to weather affected all CAS aircraft to some degree.<sup>170</sup> Radar "pathfinder" techniques developed during Korea showed promise for future CAS C<sup>2</sup> enhancements to counter weather problems.<sup>171</sup> However, most of the advances were a greater aid to interdiction bombing and CAS behind well-established front lines.<sup>172</sup> Also, using tactical air-direction post radars, Fifth Air Force was able to direct some CAS blind bombing.<sup>173</sup> However, technology was still not advanced enough (radar, C<sup>2</sup>, or precision weapons) to ensure friendly ground forces' safety through radar alone during any type of fluid operations.

Enemy AAA affected the Air Force's ability to deliver CAS. As the Communists began fortifying their positions in 1953 along the stalemated front, they created heavy flak concentrations. This act alone drove the defenseless Mosquitoes above 6,000 feet, limiting visual reconnaissance and strike direction.<sup>174</sup> Raising aircraft minimum operating altitudes, limiting strikes to a single pass, and adopting new attack tactics, helped alleviate some of the problems, but obviously hurt accuracy to some degree.<sup>175</sup> Fifth Air Force lost one aircraft for every 382 CAS sorties flown and had one in every 26 aircraft damaged due to AAA.<sup>176</sup> Enemy AAA forced improvements in both Army and Air Force artillery flak suppression measures during the war.<sup>177</sup> As one might suspect, flak damaged a much higher percentage of prop than jet aircraft.<sup>178</sup>

In theory, it appears the definition and history of CAS reveal several desirable operational requirements for a CAS aircraft: ability to operate close to and in cooperation with friendly (ground) forces in a timely manner (which would imply some type of signaling or communications system between the two), ability to destroy or degrade the enemy's ground capability in close proximity to friendlies

(weapon lethality and precision, either through smarter weapons or some type of observation and coordination system), and the ability of the air platform (the aircraft itself) to survive in a CAS environment, while responding in a timely manner to the supported commander's requests. Dr. I. B. Holley Jr. proposed these same factors when he identified the three important components of CAS aircraft in a smoothly operating CAS system: the aircraft itself, its ordnance, and its communications system.<sup>179</sup>

## Summary

Several themes, or lessons, appear to run through all the preceding CAS history and specifically through the CAS experience during Korea. First, funding requirements/restrictions affect the aircraft, equipment, and training the Air Force has had available to fight in each subsequent war. It seems technology, in many cases, kept up with doctrine, but defense funds never kept up with either. Second, the Air Force traditionally has placed interdiction as a higher priority than CAS; and the Army, as an institutional whole, has placed CAS ahead of interdiction. The rub has surfaced due to the fact that there are frequently insufficient air assets to both cover the amount of interdiction the Air Force (and to be fair, the theater commander who has usually been an Army officer) feels is necessary, and simultaneously provide as much CAS as the Army has deemed adequate. Exceptions to this rule appear to be US airpower employment in Northwest Europe and the Southwest Pacific during World War II. On this same note, interdiction worked best from the beginning (Pusan and Inchon) of the Korean War through the drive north because the North Koreans fought a conventional war (i.e., stayed on roads, were not used to what US airpower could do, and had strung out their lines of communications). After the first year of fighting, interdiction was not proving to be effective (i.e., the Chinese spread out their lines of communications, brought in more supplies off road, used more primitive means of transportation, and fought from entrenched, fortified positions). Lastly, serious joint training was ignored during the interwar years and lessons learned during peacetime exercises were paid lip service by the services. CAS joint training consisted of Air Force/Army exercises; the Navy and Marines were not thought to be players in their system. In Korea, this failure to incorporate everyone who needed to participate in the system took years of experience to remedy.

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## Chapter 4

# Close Air Support A Ground Commander's Perspective

*Unquestionably, to attack with the bayonet and hand grenade is a highly inefficient way to kill the enemy, even more so than by air attack, yet we must resort to it and must rely on it. Therefore, though close support aviation is a poor appendage of strategic air power, it is an essential extension of ground action. When that salient fact is recognized and accepted by both sides, we will progress in the matter of real air support of ground action. The Air Force rejects the role of ground support and the Army should demand it.*

—Maj Gen Edward M. Almond  
Letter to US Army Chief of Staff, January 1951

### Introduction

General Almond, United States Army, on paper and perhaps in actual fact, may have been among the most well-rounded officers to serve and hold high rank in the United States armed forces. Almond was a student at some of the most advanced schools offered by the Army, Navy, and Air Force. He taught Army Reserve Officer Training Corps and infantry tactics and served as the commandant of the Army War College (AWC). Additionally, he served on the Army General Staff's Latin American Military Intelligence Division, held almost every major position in the normal career progression of an infantry officer, and performed as General MacArthur's chief of staff for Far East Command. Almond served his country with distinction in World War I, World War II, and the Korean War. He also commanded Philippine national troops between the two world wars, an all-African-American Army Division in Italy during World War II, and both Army and Marine ground forces as the X Corps commander during the Korean War. (See appendix C, "General Almond, Biographical Information.") However, it was his experience requesting Air Force, Navy, and Marine close air support in combat and schooling regarding the employment of airpower, particularly as a student at the Air Corps Tactical School, that helped him form very distinct opinions which contributed to the Army and Air Force discussions on CAS.

This chapter presents General Almond's views and influence regarding the same four CAS subissues discussed in previous chapters: priorities in the employment of airpower, ownership and the apportionment of tactical air assets, CAS command and control, and the single versus multipurpose aircraft debate. The majority of sources for this chapter were taken directly from personal papers General Almond donated to the Military History Institute, Carlisle Barracks, Pennsylvania.

## General Almond's Thoughts and Influence

### Relevant Background in the Employment of Firepower and Airpower

General Almond formed his own opinions on the proper employment of airpower based on his experience and training. As a machine gun battalion commander during World War I, Almond argued that the Allies' objective was to rout the enemy as soon as possible by driving him from wherever he was through "maneuver rather than knock down, drag out frontal assaults."<sup>1</sup> Almond entered combat in Europe in the fall of 1918 after the warring parties had experienced years of stalemated trench warfare. He admitted that he did not consider or did his training include using tanks or airplanes to assist ground forces in maneuver operations.<sup>2</sup> Almond's early combat experience consisted of employing time-honored ground tactics and strategy against the enemy's traditional center of gravity, its army. He also emphasized his overriding concern that supporting artillery was constantly in position to support ground assaults.<sup>3</sup> His preference was a decentralized, dedicated artillery arrangement: ". . . something which developed for me in the Korean War many years later—that is, whenever possible, supporting artillery should be in position and ready to fire in support against the opposition that you send your men to wipe out, rather than having them anywhere where they have to be called on later when your casualties are dropping all around you."<sup>4</sup> Almond seems to have maintained this emphasis on decentralized, dedicated firepower in support of ground troops throughout and beyond his military career. Many years after his retirement he said, "I never could get enough of artillery or air support to support my ground operations, but I never used these to replace my troops."<sup>5</sup>

Almond also learned the importance of logistics while a student at Army Command and General Staff College. He claimed, "If you cannot protect your line of supply which is vital to do, if it's in danger, you had better change the nature of your problem or not attempt the operation."<sup>6</sup> Clearly, he understood the importance of friendly and enemy lines of communications in a military campaign and thus, the potential military advantage of an interdiction campaign.

General Almond volunteered to attend the Air Corps Tactical School in 1938 because he felt that "there was a great need for ground officers understanding the capabilities and possibilities of the Air Force in support of ground operations."<sup>7</sup> Despite what he considered to be a zealous focus of instruction on the strategic use of airpower in "dislocating the enemy nation's structure," Almond appears to have completed the year of training with an even stronger commitment to air's tactical employment.<sup>8</sup> In fact, 1935–40 marked ACTS's years of expounding the theory that, "for the immediate future, airpower was the primary weapon of destruction in war."<sup>9</sup> The school stressed the centralized control of airpower and taught, "concentrated action, independent of surface operations, was regarded as the most appropriate use of military aviation."<sup>10</sup> However, while relegated behind other instruction, air

support of surface operations was never completely neglected at ACTS. Almond expressed concern that ACTS was "more concerned with strategic air bombings and bombing operations and fighter pilot operations than it has been in supporting ground troops especially close-in support."<sup>11</sup>

One concept taught at ACTS and agreed on by both ground and air officers was the importance of air superiority to all services.<sup>12</sup> Almond was convinced that without air superiority, one could not defeat the enemy army or nation. However, where Almond appears to have disagreed with ACTS was in the proper employment of airpower in support of ground forces and on who should exercise operational control. ACTS taught that through independent air interdiction operations "denying tactical concentration to the enemy, would automatically support the ground forces."<sup>13</sup> Despite understanding the indirect approach theory of independent air interdiction, Almond was still clearly more concerned with the application of tactical airpower in direct support of ground forces. During an ACTS's lesson, General Almond claimed he asked an instructor why an aircraft had not yet been built specifically for CAS (slow flying, long loiter time). Almond stated that the instructor told him no one had ever requested such an aircraft.<sup>14</sup>

Achieving aerial observer status (along with regular classroom instruction) while a student at ACTS, General Almond probably understood more about airpower than most nonrated Air Force officers of his time.<sup>15</sup> He undoubtedly debated aspects of airpower employment with the brightest Army air officers of his time.

Therefore, prior to attaining the position of division commander, Almond appears to have believed the following:

- firepower (artillery and air) was extremely important to the support of ground operations;
- lines of communications were a critical factor to consider in all military operations;
- air superiority was the first priority of airpower;
- air officers fervently emphasized strategic bombing and independent air action at the expense of CAS; and,
- the Air Force should build a single-purpose CAS aircraft.

### **Priorities in the Employment of Airpower**

As previously mentioned, General Almond, along with the vast majority of ground commanders, regarded achieving air superiority as the first priority of any air force. Almond's disagreement in airpower priorities appears to have been in the debate over employing air assets for independent strategic bombing and interdiction versus close air support. One can further reduce the area of disagreement during the Korean War by considering two factors. First, there were few strategic targets in North Korea to tie up airpower assets and political restrictions against striking targets in China. Second, no airman would disagree that there were specific instances (emergencies and limited offensive and defensive ground operations) when CAS should take

priority over other air missions. Therefore, Almond's general disagreement in air priorities lay in his belief in assigning CAS a higher priority than interdiction during extended combat operations.

In a nutshell, it appears Almond fully understood the importance of interdiction and advocated the use of military force to cut enemy LOCs. However, the problem seems to be in his reluctance to give up limited tactical air assets from the CAS mission to accomplish interdiction missions and his apparent lack of confidence in the Air Force's ability to successfully interdict North Korean/Chinese LOCs.

Almond expressed his priority for CAS over interdiction, at least during amphibious operations, in a presentation he presumably delivered at the Naval War College, on 21 February 1940, titled, "PONAPE Attack Plan." In a section titled, "To Capture Ponape By Landing Operations Supported By Adequate Naval Gun-Fire, Mine-Sweeping And Combat Air Strength," Almond said "aerial bombings can be delivered periodically but combat patrols, hovering over the important areas must engage targets as the situation demands (as was done in the Spanish Civil War)."<sup>16</sup> Admittedly, Almond set CAS priority over interdiction for a presumably short-term operation, an amphibious landing. However, his reference to the Spanish Civil War appears to indicate his agreement with the manner in which air assets were employed by the Germans. After all, there were no amphibious landings in Spain. The Spanish Nationalists, whom the Germans were supporting, were severely deficient in artillery, and restricted the Germans from employing strategic bombardment against assets they hoped to make use of after the war. These factors led the Germans to employ CAS as their first airpower priority in the form of airborne artillery throughout the war.<sup>17</sup> Coincidentally, these same two factors paralleled Almond's situation and feeling in Korea: There were political restrictions against striking strategic targets in China; and Almond, as well as many other ground commanders, always felt they were short of artillery.

While X Corps commander in Korea during 1950, Almond maintained regular correspondence with Gen J. Lawton Collins, Army chief of staff. As a direct result of criticism Almond and other ground commanders leveled at the Air Force for perceived inadequate CAS of ground forces, Collins sent a letter to Gen Hoyt S. Vandenberg, Air Force chief of staff. In the letter dated 21 November 1950, Collins disagreed with what he perceived as the Air Force's relegation of CAS to its last air priority. Collins wrote, "The availability at all times of effective tactical air support is one of the most urgent requirements for the success of our ground forces in combat. The importance of strategic bombing and the need for gaining and maintaining air superiority is fully appreciated; however, an indispensable requirement is the concurrent provision of adequate air support for ground operations."<sup>18</sup> (See appendix D, "Close Air Support of Ground Operations.") Collins's reference to strategic bombing was in fact Air Force independent air interdiction operations. The bottom line was that there were a limited number of air assets in Korea, too few to allow performing all Air Force and Army desired air missions. Collins

and Almond believed more assets should have been devoted to the CAS mission which they perceived to be a higher priority.

Another controversy over airpower priorities in Korea arose from Almond's correspondence with Collins. On 23 January 1951, Almond again complained to Collins that the Air Force was not adequately providing needed CAS to the Army. Specifically, Almond was concerned with a statement General Vandenberg made in Japan. An extract, taken from *News and Views*, X Corps, vol. 3, no. 8, 19 January 1951, which was included as an attachment to the letter read, "TOKYO. The Air Force has officially put close air support at the bottom of its list of preferred ways to kill or cripple the enemy." That is the view of General Vandenberg, who told a press conference in Tokyo, "airplanes are inefficient weapons for killing individual soldiers." Vandenberg chose strategic bombing as the best way to hurt the enemy. Said Vandenberg, "the best way to support the Army is to knock out the mortar before it is made. The next best is to knock it out while it is in the convoy on the way to the front. The least efficient way is to knock it out after it is already dug in." Almond took Vandenberg's statement to mean the Air Force's airpower priorities, after air superiority, were first, strategic bombing; second, independent interdiction; and third, CAS. These priorities appear to accurately reflect the Air Force's position. Almond was not just concerned over the lack of air assets dedicated for CAS but also the support structure to go along with it (i.e., command and control personnel and communications equipment).<sup>19</sup>

Almond also sent a similar letter to General Clark, chief of Army Fielded Forces. Clark's response to Almond indicated identical concern over Vandenberg's comments. "I heartily agree with your feelings as to Vandenberg's statements. He has made them several times and I feel it does no good and causes those of the Ground Forces to have further concern as to whether the Air Force intends to give us the support to which we are entitled and which we must have to be successful in battle."<sup>20</sup>

However, Collins's reply to Almond, 1 February 1951, seemed to send a mixed signal on where the Air Force stood on the issue of air priorities. Collins claimed to have talked to Vandenberg about his press statement. Vandenberg insisted his reference to "the successive effectiveness of air in support of the Army did not at all represent a priority in the missions of the Air Force." He further insisted the Air Force had to carry out all missions concurrently. While congratulating Almond on his nomination to lieutenant general, Collins also chastised him for accusing the Air Force of not taking CAS seriously enough. Collins continued by saying Vandenberg admitted that many Air Force officers had been giving an impression of a hierarchy of airpower priorities in the past, but that Vandenberg was remedying the situation. Referring to a statement General Kenney, Air University commander, made on 8 January 1951 regarding concurrent air responsibilities, Vandenberg explained this apparent metamorphosis, "Van pointed out that this does perhaps represent somewhat of a change of heart on the part of George Kenney which he, Vandenberg, was responsible for. As you perhaps know, Orville Anderson, a former Commandant down at Maxwell, was more or less forced out of the Air

Force, partly as a result of his overemphasis on strategic bombardment. Van cited this and the change in George Kenney's attitude, plus the effective support being given to our troops in Korea, as proof of the fact that the Air Force fully accepts and intends to live up to its responsibility to provide first-class close support to the Army."<sup>21</sup> Despite Collins's apparent defense of the Air Force, he appeared to be dissatisfied with Air Force CAS as recently as two months prior to these letters; note his 21 November 1950 letter to Vandenberg previously mentioned. Alternatively, it is also possible Collins could have become more understanding of the Air Force position during those same two months.

Almond also received an opportunity in October–November 1952 officially to voice his opinion on CAS effectiveness in Korea. On 24 October 1952, the chief, Army Field Forces, requested that Almond, by then Army War College commandant, and Army War College students who had been former combat commanders in Korea, complete a survey on CAS effectiveness. General Almond compiled his and seven other former combat commanders' answers in a response dated 7 November 1952. In addition to other CAS subissues discussed in subsequent sections of this chapter, Almond explained a problem he and other ground commanders had with Air Force air priorities.

Question: Were any of your requests for air support refused by the Air Force? If so, what reasons were advanced for refusal?

Answer: Yes, frequently. Unavailability due to priority targets elsewhere and weather at air base. The 5th Air Force opposed Corps Commanders view on "the need for" air support.<sup>22</sup>

In addition to wanting more CAS, Almond clearly had limited faith in the Air Force's ability to interdict the Chinese lines of communications. In the spring of 1951, the Chinese had mounted a particularly effective offensive and were threatening to outflank Almond's X Corps, by then part of Eighth Army, and the Republic of Korea (ROK) divisions to his east. When Gen James A. Van Fleet, Eighth Army commander, asked for a recommendation, Almond suggested Van Fleet give him the 187th Airborne Regiment from Army reserve. Almond's plan was to employ the 187th to carry enough trucks and artillery for at least an Army battalion to operate behind the enemy front. This artillery battalion would then sever the Chinese LOCs and leave the attacking force vulnerable to UN counterattack. This plan was never accepted, but demonstrated Almond's lack of confidence in the Air Force's ability to accomplish the same job through air interdiction.<sup>23</sup>

Regarding air interdiction, and particularly Operation Strangle, Almond pessimistically tracked the Air Force-led endeavor even after leaving Korea to take command of the Army War College. In a letter dated 2 January 1952 to Eighth Army commander, General Van Fleet, Almond again criticized the Air Force's inadequate tactical air support and questioned the effectiveness of Operation Strangle. Almond wrote, "The attached newspaper clipping on O. P. Weyland's comments on STRANGLE has just been brought to my attention. If

the Communists have been able to build up from 600,000 to 800,000, as the information I have indicates, I wonder just how effective STRANGLE will prove. At this distance from the scene I find it very difficult to differentiate between propaganda and fact. Therefore, I would appreciate any comment you may care to make. I think that the thing that stopped the enemy last May was the Eighth Army— not Operation STRANGLE.” Van Fleet responded in a letter, dated 22 January 1952, explaining to Almond his satisfaction with Operation Strangle. Van Fleet expressed dissatisfaction with Air Force CAS, but for reasons associated with command and control and CAS weapon systems and equipment.<sup>24</sup>

Regardless of what opinions the Air Force and the Army were expressing, the bottom line on where air priorities stood appears to have boiled down to where air assets were actually apportioned and employed. Based on where air assets were used during the entire Korean War and the emphasis on Operation Strangle, one must agree the Air Force, and for that matter the majority of all senior military decision makers, must have favored independent air interdiction over close air support.

### **Ownership and Apportionment of CAS Assets**

After the Air Force became independent in 1947, ownership of tactical air assets was still discussed, but it was no longer a driving Army issue. The Army, as a whole, now essentially focused the bulk of its debate on who should control tactical air asset apportionment and operational employment. General Almond, like most Army officers, was a strong proponent of Army-controlled apportionment and decentralized operational control of CAS assets throughout and beyond his military career. His problems with Air Force CAS apportionment and operational control were in regard to Air Force CAS response timeliness and commitment to fulfilling Army ground commanders’ operational requests.<sup>25</sup> In essence, Almond wanted dedicated airborne artillery apportioned to satisfy each Army division’s tactical air requirements. Further, he wanted these apportioned CAS assets to fall under the operational control of Army ground commanders (see appendix D, “Close Air Support of Ground Operations”), as far down the chain of command as the Corps level.<sup>26</sup>

There was agreement up to the secretary of the Army level that, while the Air Force should own tactical air assets, the Army should exercise decentralized, operational control of these assets.<sup>27</sup> According to General Collins,

It is a recognized fact that, in each theater, there should be a senior AF CC who retains and exercises the prerogative of re-allocating tactical air units from one subordinate AF command to another to fit changing requirements within the theater. It is emphasized, however, that CAS units once they are allocated should remain under operational control of the designated Army tactical CC, until an actual re-allocation is effected. Under this concept, the CAS units are clearly assigned a definite supporting role, under control of the CC upon whom rests the responsibility for success of the operation which the units are supporting. At the same time, the flexibility inherent in air power is retained for exploitation by re-allocation.<sup>28</sup>

Almond fought hard for operational control of tactical air assets while commanding in Korea and later as Army War College commandant. Pushing his complaints of, and recommended improvements to, the Air Force CAS system, he sent letters and X Corps studies to dozens of Army, Air Force, Navy, and Marine senior military commanders around the world to include such notable figures as Gen Matthew Ridgway, Gen Maxwell Taylor, Gen J. Lawton Collins, Gen Mark Clark, Gen Joseph Swing, Gen Lemuel Shepard, and Adm Arthur Struble.<sup>29</sup>

The Army, to include Almond, frequently spotlighted the Marine air system in Korea as their model of how a CAS system should operate, especially in the area of operational control. In consultation with Almond, General Clark wrote the following in a letter to the Army chief of staff, General Collins. "More recently, the operation of Marine Air in Korea in direct support of Army and Marine Corps units has demonstrated a great advantage which the Marine Close Air Support System has over the Army-Air Force system. The Marine System operated on command instead of a cooperative basis, thus assuring the ground commander operational control of his supporting air units."<sup>30</sup>

Further, in the same letter, Clark expressed the Army's wish to obtain operational control of tactical air assets to the degree that the air commander would have to request their use for interdiction missions, by exception, from the ground commander through the theater forces commander.

Almond objected to the Air Force's desire to receive preplanned CAS requests (tactical air support requirements 24 hours in advance) from the Army. He explained the difficulty of predicting a day in advance where the ground commander would require CAS, particularly in fluid offensive and defensive combat operations. Almond said,

The chief objection I had to the support that we received in Northeast Korea was the fact that the Air Force's high command desired notification of tactical air support requirements 24 hours in advance. I explained to General Partridge, the 5th Air Force Commander who visited me frequently, that this was impossible. Our requirements for immediate air support were not always predictable 24 hours in advance; we needed an Air Force commitment to respond to unplanned tactical air support requests within 30-50 minutes of the initial request so that the enemy located by ground units could not be moved to a different place and probably better concealed. This was my chief complaint and my constant complaint. The Air Force required requests for the support too far ahead of the use to which it was to be put. . . . What they had really been doing was conducting a planned bombardment program in support of tactical ground units when what we wanted was instant support for contacts made by troops on the ground in various areas along the front line.<sup>31</sup>

Army and Air Force studies examined the Air Force CAS system in Korea. An extensive AWC study on air-ground operations completed in April 1951, stated that conclusions reached in the *Joint Training Directive for Air-Ground Operations*, and one of General Almond's X Corps' tactical air support requirements studies conducted in late 1950, were essentially the same. Further, the AWC study noted, "Each study tends to confirm the other, and thereby convinces us that the conclusions reached in both are basically

sound." Where AWC disagreed with the JTD and agreed with Almond was in the area of operational control. The AWC argued that the JTD gave too much control to the Air Force over tactical air assets.

The attack or non-attack of specific targets in connection with the conduct of the land battle is a matter of primary and overriding concern to the ground commander, since striking or not striking targets within the land battle area materially affects the outcome of the land battle, but affects the air battle not at all. The Army, therefore, cannot afford to agree to a system that permits the occurrence of such situations as that described in the following quotation from page 143, *U.S. Army in World War II*, Historical Division, Department of the Army 1950, "Early on 9 September the Ninth Tactical Air Force had turned down the Third Army request for support at the river (Moselle River), ruling that the XX Corps assault could be adequately supported by artillery."<sup>32</sup>

AWC also reiterated the position that the Army should have operational control of CAS assets and that this control should be decentralized as low as the corps level.

Shortly after his summer 1951 appointment as AWC commandant, Almond's views, specifically on operational control, were dominant at the school. Just one example came from *Army War College Views*, Number 1, dated October 1951, under the "Tactical Air Support" section.

3. Tactical air units allocated for army support in the land battle must be under operational control of the army commander responsible for conducting the battle; for example, the field army commander when the Army is engaged in the conduct of a land battle, or a corps operating independently. If operational control is not attainable then the Army must have its own tactical aviation.

4. The tactical air support required by the Army is at least one fighter-bomber group or equivalent per army corps of three divisions, and the aviation necessary for essential tactical air reconnaissance. This criterion should be the basis for planning and procurement, although the aviation involved will be employed on a flexible basis by field Army or higher Army commanders.<sup>33</sup>

As discussed in the last section, Almond compiled his and seven other ground commanders' answers to an Army Field Forces' survey in late 1952. Major deficiencies he listed in the area of operational control centered around four basic issues: unity of command, flexibility in tactical air support, flexibility of planning, and flexibility of control. (See appendix E, "Operational Control," for Almond's complete responses and rationale on this subject.) Regarding unity of command, Almond reasoned the Army currently lacked authority to control air support elements necessary to help achieve victory on the battlefield. He claimed the Joint Operations Center in Korea was under complete Air Force domination. He also accused the Air Force of exercising one-way flexibility in relation to CAS. Almond claimed the Air Force raised the banner of centralized control for concentrated action but used it as an excuse to take away preplanned CAS at the last minute, while failing to provide flexibility in the way of emergency CAS when ground commanders needed it. Almond also claimed that allocations to CAS were made too late to permit ground commanders time to plan and coordinate. He suggested preplanned CAS allocated to ground commanders which could be diverted to

higher priority missions which might develop.\* Finally, Almond requested more control of actual air strikes by the ground commander on the scene.<sup>34</sup>

Ironically, Almond offered a suggested improvement to the Marine Corps which appeared to argue for centralized control of artillery. During an interview in 1975 Almond stated,

The next improvement that I suggest is a corollary to the foregoing statement—effective use of supporting artillery. The Marines have a habit of detailing artillery support units to each of their regimental organizations. This sometimes prevents all the artillery of the supported units from being able to reach any part of the front effected. This could be corrected easily by placing the artillery centrally, although it is supposed to be able to accompany the particular Marine unit or regiment when acting separately. This is a matter that requires only definite action to insure proper and total artillery support anywhere along the line and thus reducing the casualties that will be inflicted by the enemy without artillery total support. These are minor matters and its only a matter of taking action on their parts.<sup>35</sup>

This rationale seems contrary to his reasoning for further decentralizing operational control of Air Force CAS assets. However, it does demonstrate he had limits as to how far firepower should be decentralized.

Clearly, General Almond believed the Air Force was not providing adequate CAS; and he was very vocal in expressing his displeasure. He wanted increased apportionment power and operational control of Air Force tactical air assets. Further, he wanted these assets decentralized (at least decentralized in the Air Force's opinion) to the Army corps or division level.

### **CAS Command and Control System**

General Almond and many of his fellow Army ground commanders identified flaws in the Army-Air Force CAS C<sup>2</sup> system employed during the Korean War. Almond identified several areas for improvement (equipment, trained personnel, and procedures) and suggested possible solutions. Regardless of what air priority or CAS asset apportionment/control system was employed in Korea, CAS C<sup>2</sup> problems would have been a source of friction between the Army and the Air Force.

Almond highlighted problems, recommended improvements, and tested modifications to CAS C<sup>2</sup> communications, transportation, and radar equipment. As explained in chapter 3, "Close Air Support: The Korean War," the Army and Air Force began the Korean War with inadequate CAS C<sup>2</sup> equipment due to neglect following World War II. One major area of equipment inferiority was in the number and condition of CAS C<sup>2</sup> radios. Post-World War II budget cuts and the Air Force and Army's low priority on CAS C<sup>2</sup> systems resulted in antiquated C<sup>2</sup> communications equipment, especially radios. Almond's X Corps helped to solve some of the equipment problems. For instance, many reliability problems associated with radios were due to cold temperatures, especially when aboard aircraft. X Corps installed

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\*While this argument appears contrary to the previous one, possibly, it was meant to argue for more sorties allocated for CAS per ground division.

cold weather batteries in its ground SCR-300 radios to improve reliability and recommended the Air Force install heaters in its T-6 Mosquito tactical air control aircraft to improve the reliability of their own radios.<sup>36</sup>

By 1951 some of the equipment problems had been solved, but Almond continued to press for further improvements to the air-to-ground and air-to-air CAS C<sup>2</sup> systems.

VHF ground stations for army use were provided at Corps Hq by February of 1951 by the Air Force for two-way communication with in-flight aircraft. This equipment was satisfactory in getting spot reports and interrogating pilots, particularly the pilots flying visual reconnaissance. VHF ground stations at division were not furnished for army use; there was one set provided by the AF for use by its own Tactical Control Party.

A major deficiency was the inability of the infantry battalion to communicate with aircraft. In addition, Division Liaison planes could not communicate easily with AF planes due to type of set and frequency allocation. Air Force plane radios do not have as many frequencies as Navy and Marine planes (4 vs 8 or 12) resulting in some interference in adjoining divisions.<sup>37</sup>

Another C<sup>2</sup> communications problem involved proper maintenance of equipment. In Almond's postwar survey from the Army War College, he recognized this and proved insightful in also recommending future portable equipment. "Considerable difficulty was encountered in maintaining communication with supporting aircraft. Part of this difficulty was the result of inadequate maintenance of power units and radio equipment. This was particularly true in moving situations. There is a definite need for portable ground-to-air radio for off-road operations."<sup>38</sup>

Another problem was the lack of interoperability between the services' C<sup>2</sup> equipment. In agreeing with Almond's X Corps' studies on tactical air support requirements, Brig Gen F. S. Bowen Jr., 187th Airborne Regimental Combat Team commander, stated, "Communications among air force, artillery, and infantry units should be simplified. At present there is no radio common to all three services, and valuable time is lost on occasion when coordination is effected."<sup>39</sup>

X Corps' infantry battalion tactical air control party tests in January 1951 successfully demonstrated that some of the communications interoperability problems could be solved by installing similar radios (SCR-300s) in Mosquito tactical air controller aircraft, other liaison aircraft, and quarter-ton trucks for the TACPs to ensure air-to-ground and air-to-air communications. Almond's X Corps spearheaded several innovative C<sup>2</sup> interoperability tests to help improve the CAS C<sup>2</sup> system.<sup>40</sup>

The method of transporting communications equipment, both by air and land, was also a problem area for CAS C<sup>2</sup>. The Air Force solved the problem of which aircraft would carry Mosquito tactical air controllers and their common equipment by replacing light observation aircraft with AT-6s. However, the Army helped supplement the tactical air control parties' ground transportation. Quarter-ton Army trucks were introduced in X Corps tests of Army infantry battalion TACPs. These trucks successfully traversed the

difficult Korean terrain and survived enemy attack while carrying a TACP, consisting of one officer, one radio operator, one driver, and an SCR-300 radio.<sup>41</sup>

Almond's X Corps also led joint Army-Air Force CAS tests in May 1951 using radar-controlled bombers. By this time, the CAS C<sup>2</sup> system had matured and equipment and maintenance of this equipment improved. Using an MPQ-2 radar to guide B-26s and B-29s (medium bombers), joint air and ground assets successfully bombed enemy troop concentrations in darkness and inclement weather. Between 16-23 May 1951 the Army and Air Force demonstrated devastating bombing effectiveness as close as 500 yards from frontline troops and with accuracy within 200 yards of their intended targets.<sup>42</sup>

The Korean CAS C<sup>2</sup> system initially experienced severe shortages in numbers of properly trained Army and Air Force C<sup>2</sup> personnel. Almond influenced Air Force adjustments and initiated Army enhancements to improve the tactical air C<sup>2</sup> system. He frequently argued for more and better trained air liaison and Air Force TACP personnel and successfully fought to use Army personnel in TACPs. Almond also pushed for more joint C<sup>2</sup> training and a more joint representation from all the services in the JOC.

Chapter 3 emphasized the pitiful state of Army-trained, and less than adequate state of Air Force-trained, tactical air support C<sup>2</sup> personnel at the start of the Korean War. While the Army scrambled to solve its own personnel and training problems, it also criticized and offered solutions to the Air Force in the same area.

Influenced by Almond, General Clark, as chief of Army Field Forces, alerted General Collins, Army chief of staff, of Air Force worldwide (United States, Europe, and Korea) C<sup>2</sup> training deficiencies in October 1951. Further, Clark announced the establishment of an Army Air Support Center at Fort Bragg to "field test air-ground operations doctrine and equipment, and to assist in the dissemination of this doctrine throughout the Army." Clark continued, "This center constitutes a nucleus around which a true Joint Air Support Center should be formed." Clark also requested more Air Force support for the services' (Army and Air Force) current tactical air operations system in the form of more air liaison officers and additional air liaison parties.<sup>43</sup>

In addition, Clark requested the Air Force accept Army-trained TACPs into the CAS C<sup>2</sup> system.<sup>44</sup> General Almond was instrumental in devising the original plan to organize these teams and successfully tested their effectiveness; he also campaigned heavily for their operational acceptance. Clark requested an "agreement by the Air Force to accept Army personnel, and provision for the training and use of such personnel, at battalion level, with adequate communications, to direct close air support aircraft at times when Air Force Controllers are not available or provided. In addition, provision must be made in a like manner for the training and use of Army aviation personnel as airborne controllers."<sup>45</sup> General Collins, in turn, sent the same basic request to Air Force Chief of Staff general Vandenberg in a letter dated 21 November 1950. Despite these and subsequent requests, the Air Force never supplied the desired number of TACPs and only slowly and

reluctantly accepted the idea of Army TACPs. The Air Force felt the number of Army-requested TACPs was excessive. Additionally, the Air Force insisted TACPs had to include a qualified tactical air pilot. The Air Force explained it simply did not have enough pilots to create the Army's desired number of Air Force TACPs.<sup>46</sup>

While Almond initiated the Army TACP idea, his inspiration for infantry battalion TACPs came from his successful experience with the Marine CAS system. His X Corps' "Infantry Battalion Tactical Air Control Parties" report, dated 23 January 1951, stated, "During the extensive operations directed by X Corps in Korea . . . one of the major factors contributing to the success of air-ground operations was the tactical air control concept utilized by X Corps. Basically, this is the Marine concept and provides for the inclusion of TACP's as organic units in Infantry Battalions. Combat experience in operations over extended fronts and in extremely rugged terrain *conclusively* proves that effective and efficient air support can be assured *only* if TACP's are physically present with each Infantry Battalion."<sup>47</sup>

Almond's initiative paid off when his Army TACPs proved effective in combat. On 23 January 1951, he announced to Collins,

It will be of interest to you, I am sure, to know that in the past 10 days—being unable to secure the 13 TACPs which I consider a minimum for the Infantry Division, the allotment provided by Fifth Air Force being only 4—I have organized provisional TACPs composed of 1 officer, 1 radio operator, 1 SCR 300 and 1 jeep with driver. These parties were first tested with an L-5 plane equipped with SCR 300. They worked perfectly from the standpoint of communication and, in the past three days, we have gotten Fifth Air Force, through the magnificent help of General Ridgway, to agree to honor the calls for fire on enemy targets by these Infantry TACPs with superior results.<sup>48</sup>

Despite the successful demonstration, the Air Force did not accept the concept for widespread employment. One possible reason for Air Force resistance might have been such a system's encouragement of decentralized operational control of CAS assets.

Maj Gen H. L. McBride, commandant of the Army's Command and General Staff College (CGSC), sent Almond the results of a school study on the same issue. CGSC agreed with Almond's TACP ideas and doubted the possibility of receiving, or reliability of, Air Force TACPs, "We believe that Army personnel can be readily trained to direct air strikes. We also feel that artillery forward observers should be trained for this same mission, using the artillery fire control net when necessary. I am convinced that the Air Force will never furnish the necessary TACP's for divisions and that if they insist on having qualified pilots in these TACP's that personnel would be rotated so rapidly and so uninterested in their job that that arrangement will never work satisfactory [*sic*]."<sup>49</sup>

In addition, Almond did not feel Air Force pilots were properly trained to execute CAS, nor did he believe they understood their value and role in the CAS C<sup>2</sup> system. After his tour in Korea, Almond stated,

Almost without exception, fighter-bomber pilots have no conception of the extent of their overall contribution to the fire support plan in neutralizing the enemy in the pre-assault phase of an attack or in similar operations. They will not concede the great value accruing to our forces due simply to a general hammering from the air of a critical area. They cannot understand the value of what may be only the psychological effect that air support with rockets or napalm may contribute to the overall effort of our troops. The Marine Air Wing was a notable exception in this regard, presumably because they had an excellent understanding of Army tactics and did what they were told to do by the army commander to the limit of their ability. It follows then that the air force must be educated in the army concept of fire support in order to indoctrinate the individual fighter-bomber pilot with the great value of his individual contribution to the success of the whole team, whether he actually gets a kill or not.<sup>50</sup>

Almond frequently disagreed with Air Force CAS C<sup>2</sup> system procedures, particularly on the effectiveness of the JOC. In a letter, dated 2 March 1951, to General Ridgway, commanding general, Eighth Army, Almond complained of inadequate CAS through the JOC and Eighth Army request systems. By example, Almond related his experience from the preceding day. His air officer had requested "maximum possible air strikes" on a specific target through both JOC and Eighth Army channels. Almond's men were assured by both organizations that their requests would be met. Within the next two hours, only six aircraft arrived to engage the target. Almond's own liaison pilot, who initiated the original request, had to guide the six aircraft into the target. The following excerpt from the letter explains Almond's frustration.

Initial reports from JOC were optimistic, but when confronted with the eyewitness account of my liaison pilot, JOC made further investigation and discovered the original reports to be in error in that, although thirty-six sorties were made within a radius of about six miles from the target, only eight aircraft fulfilled my request.

Incidents such as the above emphasize the fact that our present system of air support is too cumbersome; that requests pass through too many hands; finally, that no really efficient system of checking results exists and that a certain degree of operational control of aircraft by the responsible ground commander engaged in active control of operations is essential to our obtaining the real potential that exists in tactical air support.<sup>51</sup>

General Almond's interest in improved CAS C<sup>2</sup> and joint CAS training continued even after he left Korea in July 1951. As AWC commandant, Almond emphasized interservice understanding and encouraged students to find ways to make the current Army-Air Force CAS system more responsive. To accomplish this he requested increased representation from the other services at AWC. Almond also influenced AWC students by incorporating into the curriculum his opinions and recommended improvements to the current CAS system. Almond ultimately influenced hundreds of Army officers throughout the 1950s regarding his CAS views.<sup>52</sup>

Differences over CAS C<sup>2</sup> equipment, trained personnel, and procedures remained sources of friction during the Korean War for the Army and Air Force. General Almond voiced his opinion on what he considered inadequacies in the CAS C<sup>2</sup> system and initiated several intended improvements as X Corps commander. Almond was a proponent of joint CAS C<sup>2</sup>, as well as other

joint C<sup>2</sup> aspects of training. As commandant, he later incorporated some of his joint Army-Air Force C<sup>2</sup> ideas into the Army War College curriculum.<sup>53</sup>

### **Single or Multipurpose Aircraft Debate**

Almond, like many of his fellow ground commanders, believed the Air Force should develop a single-purpose CAS aircraft. He was not convinced that multipurpose aircraft (i.e., fighter-bombers, adapted for CAS missions, were as effective and efficient at performing CAS as specialized aircraft. Additionally, Almond urged serious consideration of joint Army-Air Force cooperation in procuring such a single-purpose CAS aircraft for the future. However, Almond understood the United States would have to perform CAS in Korea with existing aircraft. Therefore, he lobbied for using the aircraft he believed performed CAS the best in Korea and complained about less effective aircraft.

Almond was not convinced a multipurpose aircraft could perform CAS as effectively as one designed specifically for the CAS mission. He and other Army officers believed,

That component of tactical air operation is so closely integrated with ground combat operations that the determination of operational capabilities and of certain military characteristics is considered to be a joint function of the Air Force and Army. In this regard, these aircraft should be designed primarily for close support missions, with other missions such as air-to-air attack being of secondary importance in design. Aircraft employed for close support should have the maximum practical capability of locating and attacking promptly, under all conditions of weather and visibility, all targets which might threaten or impede, or be in close proximity to the supported unit.<sup>54</sup>

Army Command and General Staff College agreed with Almond that the Air Force, in cooperation with the Army should develop a single-purpose CAS aircraft.<sup>55</sup>

To reemphasize, General Almond believed future CAS aircraft design and procurement should be a joint Army-Air Force effort to ensure Army needs were considered. He voiced these views through General Collins who stated, "The Army should participate in the determination of general requirements for close support aircraft, which should be designed primarily for close air support roles, to include types of missions and targets, necessity for all weather operations, reasonable operational endurance, and ability to operate from advance strips in combat zones. The Army should be consulted in the development and standardization of close air support aircraft and in testing and evaluating the end product."<sup>56</sup> The Army War College agreed with the Army's right to "participate in determining the military characteristics and in the selection of the aircraft procured" for CAS.<sup>57</sup> Probably, General Almond's influence over Army War College curriculum and students perpetuated this same philosophy after he became its commandant.<sup>58</sup>

Understanding only existing aircraft would be available for Korea, Almond preferred nonjet (especially the F-4U Corsair) over jet aircraft. He and other ground commanders were convinced jet aircraft lacked the endurance, loiter time, and sufficient armament necessary to provide sufficient CAS. Air Force

jets required longer runways and therefore were forced to operate from airfields outside Korea. This increased distance reduced the aircraft's endurance and increased response times.<sup>59</sup>

Most ground commanders clearly favored Marine aircraft, "A distinct difference has been noticed in the type of support provided by jet-type aircraft, air force conventional-type aircraft, and US Marine aircraft. The Marines are noticeably deliberate in their manner of destroying targets, while all other units deliver their ordnance much faster and with less apparent effect. Perhaps this fact is due both to the difference in training and to aircraft design."<sup>60</sup> General Van Fleet claimed the Air Force did not have the proper CAS aircraft or appropriate armament to accomplish CAS as promised.<sup>61</sup>

In arguing for a single-purpose aircraft, Almond criticized Air Force all-purpose, jet aircraft.

Close support should be provided by an airplane designed to accomplish that primary mission and not an all-purpose fighter. Although the Marine aircraft and Air Force propeller planes were generally adequate, the jets were not. The Marine aircraft carried a more balanced, useful load than air force. Jet aircraft did not have sufficient endurance in the target area. Hence, when they arrived, they were given immediate precedence even though propeller aircraft were in the process of a strike, resulting in lost time and repetition of instructions. Jet sorties had to be released frequently because of the lack of endurance. Jets afford a more stable gun platform and should be more accurate than propeller types. However, their higher speed and limited endurance made them less accurate and more prone to make tragic errors in target identification.

Navy dive bombers were unquestionably the best type aircraft for close support from the endurance, load capacity, and accuracy viewpoint.<sup>62</sup>

Considering existing aircraft, one X Corps study recommended night area bombing using B-29s. Based on combat tests, X Corps advocated the following. "There are three B-29 Groups in this theater with radar, communications and navigation equipment as well as necessary range to accomplish night missions. They can remain over the target for a much greater time than jets. Example: 11 flights of 3 B-29s each could be dispatched so that some aircraft would be on-station continuously from 2000 to 0600 hours."<sup>63</sup>

Clearly, Almond believed the Army and Air Force should jointly develop a single-purpose CAS aircraft. However, understanding he would have to plan with existing aircraft, General Almond favored nonjet over jet aircraft at the start of the Korean War.

## Summary

General Almond had pronounced views as a result of his experience prior to and during the Korean War regarding all four CAS subissues presented in this study: priorities in the employment of airpower, ownership and apportionment of tactical air assets, CAS command and control, and single versus multipurpose aircraft debate. Almond subsequently went on to

influence hundreds of Army officers through changes he made to the Army War College curriculum in the area of close air support. While debating which of his opinions were correct during Korea is interesting, the more important lesson is in examining which of his opinions might have been beneficial and/or detrimental to future CAS applications.

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58. *Army War College Views*, Number 1, 4.
59. General Clark to chief of staff, US Army, letter, subject: Army Requirements for Close Tactical Air Support.
60. General Bowen to General Almond, letter, subject: Tactical Air Support.
61. General Van Fleet to General Almond, letter, 22 January 1952.
62. General Almond to chief, Army Field Forces, letter, subject: Effectiveness of Close Air Support, 1.
63. Almond Papers, Col J. H. Chiles, G-3, X Corps, Korea, "Use of B-29 Aircraft against Troop Concentrations in Support of Ground Forces, 8 February 1951," TMs [photocopy].

## Chapter 5

### Conclusions

*It should come as no surprise that the Army and Air Force look at war from two sharply contrasting points of view. To most Army officers it is axiomatic that the ultimate outcome of any war is decided by the man on the ground with a weapon. . . . The primary force to be reckoned with is the enemy ground formation. But, and this a very important but, virtually all thinking soldiers are also painfully aware of their need for air support: first to keep the enemy air force off their backs; and second, to reduce the effectiveness of the enemy's ground formations. Airmen live in an entirely different mental and physical universe. They do not accept the axiom that the ultimate result comes from the man on the ground. Many airmen believe passionately that airpower is a liberating force that can produce tactical, operational, and strategic results quite independently of land formations. . . . Furthermore, most airmen are absolutely convinced that the sine qua non of effective operations is the neutralization or destruction of the enemy's air force and air defenses. Once this is accomplished, all else can follow. And, while airmen are largely dependent upon soldiers to keep enemy ground forces at bay, this dependence is nowhere nearly as strong as soldiers' dependence upon them. The asymmetry of this dependence lies at the root of many of the tensions that exist between the Army and the Air Force regarding air-ground operations.*

—Dr. Harold R. Winton

### Introduction

The Army and Air Force have differed over the concept of close air support for many years, and the discussion continues today. Understanding the historical roots of these differences is necessary to understanding contemporary CAS issues. As a reminder to the reader, all CAS subissues discussed in this study are examined in light of the Army-Air Force relationship. Relevant issues from other services are discussed where applicable; however, the emphasis is on the relationship between the Army and Air Force. Additionally, the four CAS subissues are closely interrelated. Therefore, problems or solutions in one area frequently affect one or more of the others.

### Discussion of Issues

#### Priorities in the Employment of Airpower

The discussion of this CAS subissue is really a matter of preferences in the use of limited air assets in a particular situation. The assumption of limited air assets is important because when aircraft are abundant, they can

perform everyone's desired missions. One may immediately dismiss two extremes from the analysis. When Army ground commanders are not engaged in combat with the enemy (and not planning to be in the immediate future), they do not voice serious objection to employing air assets for strategic attack or deep interdiction. Additionally, when Army formations are in a short-term, critical/emergency situation, that is, initiating an offensive breakout or unable to defend against an enemy offensive, Air Force commanders do not object to making CAS an overriding priority. The debate seems to arise over what air priorities to establish for the course of an entire conflict when each service seeks different objectives.

Each service's fielded combat forces often focus on different decisive points (objectives) to achieve the same overall US political objectives. Although a theater commander clearly employs Army and Air Force assets to achieve his own priorities through attacking decisive points, his hands are sometimes tied in two ways as to which decisive points he can attack. First, political restrictions occasionally preclude the theater commander from attacking the most decisive points. For example, restrictions against attacking potential targets in China during the Korean War restricted the theater commander's options. Second, service organizations (and later, service departments) limited the theater commander's means of attacking decisive points by the characteristics of forces made available. Service departments train, organize, and equip Army and Air Force units according to broad objectives that are not always appropriate in specific situations. Service departments also work with limited, competing budgets. Therefore, a service might develop a force consisting of the appropriate assets to counter the most likely perceived threat, only to find itself employed in an entirely different situation. For example, F-80 units in Japan were used for CAS in 1950, although they had been trained for the air defense mission. Differences between the capabilities of the forces in being and the forces required for a specific situation have added to the disagreement over airpower priorities.

In Korea political restrictions helped to focus both the Army and Air Force on the same military objective, defeating the enemy's military forces. However, due to the manner in which each service's doctrine prepared it to fight and each service's existing fighting force structure, they disagreed over which decisive points would achieve defeat of the enemy force.

To elaborate, the United States entered the war with an Air Force better trained, organized, and equipped to fight against another industrialized state than the opponent and situation that were presented. Political restrictions against using atomic weapons and attacking North Korea's allies led the Air Force to focus on interdiction. With air superiority achieved early and few, if any, allowable strategic targets, the Air Force keyed on what it perceived as the next most effective employment of airpower, interdiction. Given an overall force unprepared for CAS, and a deeper strike focus, it is not difficult to understand why the

Air Force favored interdiction over CAS. Therefore, the Air Force chose interdiction of enemy lines of communications as the decisive objective to best defeat the enemy.

On the other hand, the Army entered Korea intending to employ ground forces against its traditional center of gravity: the enemy armed forces. While ground commanders were interested in interdicting potential enemy troops and supplies, their immediate concerns involved current action at their fighting front. Added to this, most ground commanders saw little proof the Air Force's interdiction campaign (Operation Strangle) was working. Additionally, ground commanders felt the need for increased CAS due to perceived inadequacies in available artillery. Ground forces also desired more air support during the first year of Korea because fighting was fluid and airpower was more mobile than artillery. Therefore, Army ground commanders chose fighting the enemy fielded force closer to the front lines as the decisive point to achieve their military objective. This focus naturally led the Army to favor CAS over interdiction targets.

Whether Air Force interdiction was a successful use of limited air assets is beyond the scope of this study. The important point is to understand the difference in opinion between the Army and the Air Force over the effectiveness of existing airpower in performing interdiction and CAS. This difference still causes friction over air priorities.

### **Ownership and Apportionment of CAS Assets**

After 1947 ownership of CAS assets became less of an issue. The debate turned to operational command and decentralized control of Air Force CAS assets. Operational command is a question of which service should command CAS assets during combat, while decentralized control centers on the most effective level within a service to control CAS assets during combat.

The operational command issue revolves around service responsibilities and the realities of existing command and control systems. The Army argues it has responsibility for the ground battle and therefore should have operational command of the assets it requires in its prosecution; this constitutes a somewhat geographically centered C<sup>2</sup> system. The Air Force argues it has responsibility for all air combat and therefore it should maintain operational command; this constitutes a somewhat functional C<sup>2</sup> system. Operational command of another service's assets usually requires sophisticated interservice communications methods and substantial joint training and cooperation: neither of these existed in Korea.

Finally, decentralized control of CAS aircraft assumes sufficient air assets to supply all commanders at the level chosen for decentralization and downplays the potential for concentrated firepower associated with centralized control.

## **CAS Command and Control System**

Coordinated, joint service CAS request and direction (control) systems have always required significant service preparation and significant interservice cooperation to employ tactical air assets effectively and efficiently. Unfortunately, the low priority assigned by the Army and Air Force to CAS between wars and limited budgets have resulted in poor CAS C<sup>2</sup> systems existing at the start of most US military conflicts through the Korean War.

A good CAS C<sup>2</sup> system includes reliable, interoperable communications equipment, trained personnel, and the necessary supporting infrastructure. This is true whether the system includes messages dropped from aircraft, smoke signals, or more sophisticated electronic communications. Some type of joint operations center with adequate representation from all the services involved is necessary to ensure smooth and proper operation. CAS C<sup>2</sup> system problems have significantly added to the Army-Air Force CAS debate in the past. CAS C<sup>2</sup> has probably been the most important and possibly the most difficult to resolve CAS subissue, often resulting in tension between the services.

## **Single or Multipurpose Aircraft Debate**

This subissue has always hinged on whether the Air Force should design and procure a single-purpose aircraft to perform CAS. Many Army ground commanders, to include General Almond, have recommended the value of such an aircraft over traditionally modified aircraft that the Air Force originally designed for other missions.

To examine the issue, it is important to determine exactly what the Army has desired in a single-purpose aircraft. Preceding chapters show the Army, to include Almond, did not intend for the aircraft to have no air-to-air or deep strike capability; they simply wanted it optimized for CAS. However, if the necessary characteristics of a CAS aircraft are too different from an air-to-air aircraft, then the Army's ideal may in fact only perform CAS well and not necessarily perform air-to-air missions at all.

The aircraft debate actually extends beyond the airframe. The Army has reasonably deduced that a specialized CAS aircraft also requires a specialized corps of CAS-trained pilots. While a single-purpose CAS aircraft and dedicated corps of CAS pilots may appeal to most ground commanders, many airmen question the efficacy of such a solution.

These factors are important because they lead to a very critical consideration in the single versus multipurpose aircraft debate: the degree a military force is capable of achieving air superiority. If air superiority is fairly certain, as it was in Korea, then a single-purpose CAS aircraft may best provide for the needs of the ground commander. However, if air superiority is not a given, some consideration must be made for protecting the aircraft while it performs CAS or equipping it with some counterair capability.

## **Principal Findings**

### **Priorities in the Employment of Airpower**

This study demonstrates that the proper priority scheme for the employment of airpower is situationally dependent. However, a number of specific priority themes emerge throughout.

Both air and ground commanders agree that the first priority of airpower is air superiority. Unfortunately, this is where the widespread agreement ends. Overall, airmen clearly favor deeper air strikes to CAS, while many ground commanders favor just the opposite. Theater commanders, who have most frequently been Army officers, shift air priorities based more on situations than any hard and fast rules. Air, ground, and theater commanders appear to focus their objective according to their own responsibilities. General Almond, like many ground officers, clearly favored CAS over interdiction during the Korean War and appears to have favored CAS in previous conflicts. His well-documented priorities on CAS and vocal emphasis as a senior Army officer likely influenced hundreds of officers he commanded in the field and at Army War College. He probably affected many of the officers who subsequently provided senior leadership and vision to the US Army of the 1960s and 1970s. Likewise, Almond's Air Force contemporaries undoubtedly influenced subsequent Air Force leaders with the philosophy of centralized control of air assets.

### **Ownership and Apportionment of CAS Assets**

Army officers, most notably, General Almond, showed in Korea that they wanted more control of their own destiny. They were responsible for prosecuting the ground campaign and wanted control of all the assets required to accomplish that task. Therefore, Almond and other ground commanders desired operational control of Air Force CAS assets. The Army, and particularly Almond as X Corps commander, enjoyed operational control of Marine CAS and saw no reason to expect less from the Air Force. While CAS was the primary function of Marine Air, it was considered the least efficient use of airpower by the Air Force. Also, the United States achieved air superiority quickly in Korea and thus was able to devote more air assets to other missions. As a result of air superiority, the United States was also able to use aircraft not specifically designed for CAS effectively in the CAS role. The United States would not have been able to do this, without sustaining increased and perhaps prohibitive losses if air superiority had been in question. The statistical realities of Korea show that during much of the war most air assets were apportioned for interdiction.

The Army's desire for decentralized control of tactical air assets would have required many more aircraft available and capable for CAS than was possible during the Korean War. This does not mean aircraft could not have been

decentralized to the division or corps level, it simply means they would have been spread more thinly. Spreading out the air assets would have made them less responsive to using them for other higher priority air missions as determined by the senior military leadership in Korea. This also would have required a much more sophisticated C<sup>2</sup> system for quickly concentrating air assets for tactical employment during emergency situations. In other words, limited, dedicated control at the division level would have reduced overall theater control and the ability to quickly concentrate airpower at a desired point.

## **CAS Command and Control System**

CAS C<sup>2</sup> systems are traditionally in a state of neglect; the initial CAS C<sup>2</sup> system at the start of the Korean War was no exception. Limited budgets prior to the Korean War required all services to make difficult force structure choices. Neither the Air Force nor the Army were prepared with the required C<sup>2</sup> equipment, trained personnel, or other needed infrastructure to execute a substantial, coordinated joint service CAS system. Air Force emphasis on strategic air preparation at the expense of tactical air was only surpassed by the Army's failure to prepare to use Air Force CAS. In fact, the Army was not even sold on the idea that it would require much CAS due to its plans for artillery employment.

General Almond recognized the CAS C<sup>2</sup> problem in Korea and provided a number of innovative solutions to improve the system. His most notable contributions came in his recognition of the need for training, to include joint preparation. Also of particular significance was his insistence on breaking down Air Force resistance hindering the formation of additional tactical air control parties manned with Army rather than Air Force personnel. His X Corps also conducted preliminary testing on the possibility of integrating the CAS C<sup>2</sup> system with Army artillery communications networks. Increased C<sup>2</sup> capability led to more effective CAS employment in Korea.

### **Single or Multipurpose Aircraft Debate**

Ground commanders, Almond included, have traditionally pushed for the development of a single-purpose CAS aircraft. This is probably because the Army desires the most effective asset available to perform a mission upon which it has inevitably depended. Ground commanders have either failed to understand or purposely ignored the fact that the same characteristics which make a platform an ideal CAS aircraft may also result in it performing other missions poorly.

The bottom line is the Air Force has controlled CAS aircraft development since 1947 and has directed funds proportionately to assets it feels best meet its overall air priorities.\* Because the Air Force desires versatile CAS aircraft,

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\*The Air Force controlled A-10 procurement; however, it did allow the Army a considerable voice in the aircraft's development.

it avoids CAS-optimized aircraft procurement. Since 1940 the Air Force has not acquired many aircraft in which it has assumed the aircraft would have the luxury of operating in an environment of total air superiority. CAS-designed, single-purpose aircraft such as the A-10 have been the exception to a rule of modifying already existing aircraft to perform the CAS mission. Today's Joint Advanced Strike Technology (JAST) program, at least the Air Force's portion, is focused on procuring a Joint Strike Fighter (JSF) to replace the F-16, not the A-10.<sup>1</sup> Army and Air Force coordination on the design specifications for the Air Force's version of the JSF have been minimal.

I found no mention of active participation by the Army in any of the numerous journal articles I read regarding JAST. An informal call to the JAST program office at Wright-Patterson Air Force Base, Ohio, also leads me to believe the Army is less than enthusiastically involved in this program.

## **Conclusions**

### **Priorities in the Employment of Airpower**

One might reasonably conclude that Almond's strong and frequently stated opinion giving CAS a higher air priority than interdiction, and probably strategic attack, influenced a generation of Army officers. Many of these officers, right or wrong, carried this emphasis on CAS forward. Because Air Force thinking, right or wrong, emphasized the opposite priority, the controversy persisted well after General Almond's direct influence disappeared from the interservice battlefield. This issue has not only caused confusion during conflict, but has also stimulated important professional interaction between the Army and Air Force. Available evidence appears to indicate the best priority of air assets depends on the situation. The problem is that "it depends" is not a sufficient philosophy for building an appropriate Air Force to satisfy everyone's desires with limited funds. Until a "one size fits all" air or space weapon system is developed this conflict over appropriate air priorities is likely to persist between the Army and Air Force.

### **Ownership and Apportionment of CAS Assets**

Unfortunately, the C<sup>2</sup> system in Korea was insufficiently sophisticated to allow for Army operational control of CAS assets without also opting for a decentralized control scheme at Army division or corps levels. This would have resulted in smaller, Army-controlled C<sup>2</sup> nets. The state of both Air Force and Army tactical air command and control was in poor shape at the start of the Korean War and only improved after significant effort on both services' parts. Further, the limited number of CAS aircraft and C<sup>2</sup> equipment and trained personnel, and the senior leadership's higher priority on interdiction

(Operation Strangle) over CAS, precluded decentralizing airpower to the level Almond requested. Additionally, air superiority was quickly achieved in Korea. Without air superiority there would have been much more of a requirement to coordinate "all" airpower in the theater.

Again, while Almond's arguments for Army operational control and decentralized execution might make sense in a world of robust air assets, they fail to consider the fiscal realities imposed on the US military. With the United States' historical trend in developing fewer, more sophisticated aircraft it seems unlikely that there will be sufficient air assets in the future to allow much Army operational control or decentralized execution of Air Force CAS assets. Exceptions to this rule will occur only in situations where there are adequate air assets to satisfy both ground and air commanders' requirements, for example, airpower employment in the Northwest Europe and the Southwest Pacific theaters during World War II. Therefore, it may be realistic for air assets to be decentralized effectively in future situations where the United States has air superiority and a significant military advantage. Also, in theory, US military C<sup>2</sup> systems could become sufficiently sophisticated to provide a global view of and manage an operational theater. Such a system might allow for more Army operational control and decentralized execution on at least a limited basis. However, communications systems are not there yet technologically and may never achieve such a level when one considers the rapid decision making that would be required by the people who have to make the system work.

## **CAS Command and Control System**

Almond's emphasis on an improved CAS C<sup>2</sup> system, both during the Korean War and after, contributed to increased attention on the subject, at least throughout the 1950s. Unfortunately, Almond's suggestions and innovations have frequently been ignored in subsequent US conflicts. Even during the Gulf War joint command and control interoperability and training issues demonstrated that the military does not or cannot prepare for all aspects of airpower C<sup>2</sup> employment.\*

Also, as CAS C<sup>2</sup> systems have become more complex, military commanders have been able to control the use of CAS assets better. Greater control increased the effectiveness of aircraft in tactical roles. In Korea radar-controlled bombers (originally designed for independent, deep strike missions) were successfully employed for night CAS using improvised C<sup>2</sup> techniques.

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\*Incompatible Air Force and Navy communications equipment during Desert Storm necessitated flying the air tasking order out to ships rather than electronically transferring the data.

## **Single or Multipurpose Aircraft Debate**

The Air Force consistently avoided developing a single-purpose aircraft for CAS. Fiscally constrained defense budgets are a major reason for the Air Force's position. When the Air Force can only afford a limited number of aircraft, it wants multipurpose aircraft that perform its higher priority missions. Supplying support to another service, given limited funding for weapon systems, provides limited incentive to build a single-purpose CAS aircraft.

### **Impact on Current Issues**

#### **Priorities in the Employment of Airpower**

The Air Force mix of air assets has always been, and predictably always will be, restricted by limited defense budgets and a best guess of future threats. If one assumes that specialized CAS aircraft (optimized for air-to-ground fighting) perform tactical air support better than air-to-air or multipurpose aircraft, then this subissue will remain open for debate between the services. However, if the recent trend in smart munitions continues, and these munitions become plentiful, then the issue of priority could become a less significant source of friction between the Army and Air Force. In fact, the source of friction may shift to the priority of the munitions themselves.

If the priority subissue persists, tomorrow's military officers of all services should be wary of buying into either Almond's or the traditional Air Force's priority schemes once a conflict has started. At that time, the theater commander must lead the services in the proper direction by establishing an air priority plan that best fits current force capabilities, the specific threat, and intended political and military objectives. Therefore, the issue of air priorities is most important early in the force planning process during the threat evaluation phase and service budgeting process. This process determines what air assets will be available for future theater commanders.

#### **Ownership and Apportionment of CAS Assets**

The Army has actually renewed the issue of ownership by its development of the Army tactical missile system (ATACMS) and attack helicopters.<sup>2</sup> Both are Army owned and controlled and offer potential support to the ground commander. The services are currently debating the issue of who should exercise operational control of these assets. The helicopters would primarily be used for CAS and since the ground commander coordinates and controls air assets inside the fire support coordination line (FSCL), the Army will most likely retain operational control. However, ATACMS is primarily employed against close interdiction targets that are outside the FSCL and so require coordination with the Air Force. One might conclude that ATACMS will probably fall under the operational control of the Air Force. On the other hand, the Army's extended reach through ATACMS could also result in extending the FSCL.

Currently, the theater commander decides air apportionment. However, as in the past, the theater commander's apportionment decision is somewhat constrained by what available air assets are capable of offering to the fight. These air assets, their supporting infrastructure, and associated trained personnel are planned for by the Department of the Air Force, in most cases years before they are employed. While air superiority remains the theater commander's first priority, his apportionment percentages for strategic attack, interdiction, and CAS may be influenced by the effectiveness of available aircraft to perform each mission.

The Army would still like to assume operational control of tactical air assets because it has responsibility for the ground battle. With increases in joint service integrated C<sup>2</sup> systems and training, the Army may someday effectively manage operational control chopped to it for short duration CAS missions, while the Air Force maintains centralized control of overall air assets. This would require a significant degree of technological sophistication in command and control.

The possibility of decentralized control appears to be fading as military budgets continue to shrink and the number of Air Force airframes dwindles. Because air superiority can rarely be assumed, the Air Force will continue to insist on centrally managing its limited air assets. Even with increased precision, the Air Force recognizes the importance of concentration.

Finally, while an increase in C<sup>2</sup> capabilities offers better coordination possibilities at the Army division level, senior military leaders might decide differently. Senior commanders with a tendency to micromanage might decide to centralize at a higher level if command and control allow it.

### **CAS Command and Control System**

CAS C<sup>2</sup> systems are critical in today's employment of tactical airpower. Not only are they important in their contribution to defeating the enemy but also in their potential to prevent fratricide. A concerned American public may not tolerate a modern disaster such as the 1944 Operation Cobra incident.

The American military relies increasingly on sophisticated weapon and information systems to prosecute asymmetric warfare against less sophisticated opponents. Advanced C<sup>2</sup> systems give the United States a distinct advantage in CAS. However, these systems require constant attention to ensure they are properly manned, equipped, and organized to provide jointly trained and reliable assets to the CAS system. There is no reason to believe this US trend in advanced communications will decrease; therefore, interoperability and training will remain important discussion issues.

### **Single or Multipurpose Aircraft Debate**

This debate is still alive today. While the Army would prefer the Air Force to build a single-purpose CAS aircraft, the Air Force would still prefer to procure

CAS-capable aircraft that can also perform other higher priority air missions. With even tighter budget constraints, the Air Force receives little incentive to procure an aircraft that merely supports another service. Advances in smart munitions may reduce the tension on what airframes are developed. Future standoff platforms may not be as much of an interservice issue as the smart munitions which ultimately go into harms way to supply Army CAS.

## Summary

All four CAS subissues are still relevant today. While many of Almond's ideas may not have been ideal solutions to overall military problems, some of his ideas held great value in the past and still hold great importance today. Whatever his beliefs, General Almond surely influenced the Army-Air Force CAS debate for many years after his retirement.

Turning now to the original research questions presented in chapter 1, we find the following.

**Assuming at least some tension over the CAS issue, what differences have existed between the US military services regarding CAS doctrine (World War I through Korea)?** Evidence presented in chapters 2 and 3 demonstrated some of the traditional differences between the Army and Air Force regarding CAS. The most obvious differences have existed over the control and perceived best use of limited air assets by two services with often diverging political and military objectives.

**What were General Almond's views on CAS and how did they evolve?** General Almond's personal papers and other related published sources seem to indicate a consistent view regarding CAS. Before attending the Air Corps Tactical School, in fact as early as World War I, General Almond appears to have been a proponent of the ground commander (division and corps levels) responsible for the ground objective maintaining control of as much firepower (artillery and air) as possible for dedicated and responsive employment on the battlefield. Most of his personal papers reflect his priority of CAS over interdiction. Unfortunately, there is scant mention by Almond of the importance of strategic attack and where he placed it in relation to other air missions on the priority ladder. Judging by his comments regarding the ACTS, one might conclude that Almond would have placed CAS above strategic bombing in priority.

**Were Almond's views consistent with mainstream Army views on CAS?** Almond's views on CAS were indeed indicative of "most" other ground commanders of his time. Most because many ground commanders who rose to accept theater and higher responsibilities sometimes held different views. Whether these senior Army leaders (to include Marshall, Eisenhower, and MacArthur) held contrary views to other ground officers due to political constraints or actually believed in other priorities of airpower is beyond the scope of this study. What would have been interesting would have been to see

if Almond's views changed had he ever been appointed to a theater command position.

**How did these views on CAS shape future CAS doctrine debate and development?** Almond's influence on the CAS debate during the 1950s and his influence on a generation of Army officers probably had lasting effects on Army-Air Force relations. Many of the same CAS issues Almond chose to address formally have been topics of concern for the services in the recent past, are discussed today, and will likely cause some friction in the future. The outcome of these debates results in the weapon systems and doctrine we use to fight subsequent conflicts. CAS debate (as well as discussion on other air missions) among the four services resulted in procuring the A-10, development of the JFACC concept, and improved C<sup>2</sup> systems; it has contributed to the evolution of US military development.

**Why is understanding this history of Air Force and Army friction important to today's CAS relationship between the two services?** Understanding the roots of our traditional differences should help both services better comprehend each other's positions today. Whether the differences are irreconcilable is another matter. While the services may identify different decisive points or centers of gravity, one thing is certain: they all must adhere to the same national political objectives. As long as the services strive to build the best systems and establish the best joint doctrine for employing those systems, the US military will continue to improve despite minor differences.

### **Recommendations for Future Research**

Several topics for future research would add to an understanding of the Army-Air Force CAS debate. First, a continued study of the four CAS subissues examined in this study, from post-Korea to the present, would complete the picture on the Army-Air Force CAS discussion. Second, the study of other factors effecting the CAS debate might shed further light on the reasons for service differences (i.e., studying organizational and individual motivation). Third, a similar study of an Air Force commander who was a contemporary of Almond, perhaps Maj Gen Earle E. Partridge, commander of Fifth Air Force in Korea, might provide further insights to the CAS debate. Finally, closer study of any of the four subissues would add to a more in-depth understanding in a particular area.

The Army and Air Force have traditionally differed on several CAS subissues: priorities in the employment of airpower; the ownership and apportionment of CAS assets; the most effective CAS command and control system; and the debate over whether to procure a single or multipurpose CAS aircraft. Resolution of these issues proved to be difficult indeed. General Almond significantly contributed to the ongoing CAS debate. Whether one agrees or disagrees with his personal philosophy on CAS is irrelevant. The point is that Almond, and others, generated important discussion on a complex topic which required in-depth examination. From all indications this issue is likely to generate further discussion in the future.

This study concludes with some of Almond's last officially recorded thoughts on CAS that remain relevant:

As to the Air Force, I am a graduate of the Air Corps Tactical School; in my combat operations both in Italy in World War II and in Korea, I always endeavored to use air support to the maximum. Sometimes I may have been too demanding, but if air support seemed feasible to support an operation or to gain air observation of the enemy, I always used it. This sometimes seemed too demanding to the [air] commander, especially General Pat Partridge, the 5th Air Force Commander in Korea. The Air Force naturally liked to plan ahead and always liked the request for their support to be in hand 24 hours or more before the action was to take place. To the infantryman and artilleryman, this is sometimes impossible. For example, at midnight of any night when the enemy is discovered, where will he be tomorrow? Who knows? Sometimes an air strike is required in 30 minutes in the case of an enemy movement just discovered. This need led us to develop tactical air support control parties that we used in Korea with great success. The Air Force prefers long range bombing missions planned long before execution. The Army Division [and] Corps Commander really want the air support available in 30 minutes to pose a real protection against an enemy threat. Otherwise, my relations and utilization of Air Force efforts had always been excellent.<sup>3</sup>

#### Notes

1. David S. Hersh, "The Joint Advanced Strike Technology (JAST) Program" *Program Manager*, September–October 1944, 33; and Barbara Starr, "UK Gets Ready to Sign Up with JAST," *Jane's Defence Weekly*, 18 March 1995, 73–74. The JAST program is a joint, Navy-Air Force-Marine effort to define requirements and demonstrate technologies for affordable next-generation systems that may be incorporated aboard future strike aircraft. These future aircraft are expected to complement the Navy's F/A-18E/F aircraft, replace the Air Force's F-16 aircraft, and replace the Marine Corps' AV-8B and F/A-18 aircraft.

2. Dr. Harold R. Winton, "Partnership and Tension: The Army and Air Force between Vietnam and Desert Shield," *Parameters* 26, no. 1 (Spring 1996): 112–13.

3. Edward M. Almond Papers, *Senior Officers Debriefing Program*, interviewed by Capt Thomas G. Fergusson, Anniston, Ala., six tape series of typed transcripts, tape 6 (Carlisle Barracks, Pa.: US Army Military History Institute, 25–30 March 1975), 27.

## Appendix A

# Close Air Support Definitions

### I. Earlier CAS Definitions

[1] **Air Corps Field Manual 1-10, *Tactics and Technique of Air Attack*, 1940:**

#### SUPPORT OF GROUND FORCES:

GENERAL.—a. Combat aviation in support of ground forces operates in a manner that will most effectively contribute to the successful execution of the mission of the supported forces. The nature of these support operations will be influenced to varying degrees by the following factors:

- (1) Mission of the ground force.
- (2) Potential opposition and characteristics of enemy aviation forces.
- (3) Strength and characteristics of supporting aviation forces.
- (4) Location, disposition, and relative security of air base installations and operating areas available to the opposing aviation forces.
- (5) Strength and disposition of enemy antiaircraft defenses.
- (6) Visibility and weather conditions obtaining during the conduct of operations.
- (7) Mobility and firepower of the supported ground force.
- (8) Strength, disposition, and characteristics of hostile ground opposition.
- (9) Vulnerability of hostile signal communications and routes of movement.
- (10) Nature of terrain over which operations are conducted.
- (11) Nature and extent of the road, signal, railway, and/or water communication system within and leading to the area of the supported ground force operations.
- (12) Period of time over which supported operations are to be conducted.

b. In planning for operations by combat aviation in support of ground forces, a proper evaluation of the influence of the above factors will indicate the strength and composition of supporting aviation required and appropriate procedure for the conduct of supporting air operations, including coordination, communication, and so forth.

c. Aviation in support of ground troops may engage in one or more of the following operations:

- (1) Destruction or neutralization of enemy aviation forces opposing the supported ground forces by antiaircraft defense and counter air force operations.
- (2) Reconnaissance, liaison, and observation.
- (3) Delivery of fire on the immediate front of ground forces.
- (4) Air attack against targets in the hostile rear areas.
- (5) Support, both in the air and on the ground, of parachute troops and air Infantry.

**[2] Army Air Force Field Manual 1-15, *Tactics and Technique of Air Fighting*, 1942:**

**SUPPORT OF GROUND FORCES**

**GENERAL.**—a. Operations of pursuit aviation in support of ground forces are based upon the needs of the ground forces and their supporting aviation. The pursuit commander should be thoroughly familiar with the plan of operation of the ground forces, the terrain over which they are operating, and the strength, disposition, and method of employment of enemy antiaircraft artillery so far as they may affect the success of supporting operations.

**MISSION.**—Pursuit forces operating in direct support of ground forces may be employed in the execution of all of the following missions:

- a. Antiaircraft security.
- b. Protection of air support forces and organic aviation.
- c. Counterreconnaissance.
- d. Air attacks on ground troops and light materiel.

**METHODS OF OPERATION.**—Except for the attack of ground targets, pursuit executes its missions in direct support of ground forces by methods similar in character to operations previously treated in this manual. The specific application of these methods of operation is covered below.

- a. (1) Pursuit provides antiaircraft security by operating in local or general defense. It operates by ground alert, air alert, or fighting patrol methods.
  - (2) When ground forces are in contact, antiaircraft security may best be obtained by offensive action, to gain temporary or permanent air superiority. This is accomplished by pursuit concentrations and/or offensively fighting patrols.
- b. Pursuit aviation provides protection for air support forces by general or special support and by protection of their air bases as treated in section VII.
- c. Pursuit aviation executes missions of counterreconnaissance by offensive or defensive fighting patrols. Counterreconnaissance is normally accomplished

incident to other pursuit operations. Where enemy reconnaissance is extensive, special operations by fighting patrols may be necessary.

d. (1) Pursuit executes attacks on ground personnel and light materiel targets by employing light bombs and automatic weapons.

(2) So long as enemy air operations constitute a serious threat to successful ground operations, supporting pursuit forces will normally be employed against those forces and not diverted to attacks on ground objectives. However, in critical situations or when enemy air operations are relatively ineffective, pursuit aircraft can be employed effectively against ground personnel and light materiel, especially hostile antitank dispositions confronting friendly armored or mechanized forces.

[3] **United States Army Field Manual 100-20, *Command and Employment of Air Power*, July 1943:**

**“Close air support.** Air participation in the combined effort of the air and ground forces, in the battle, to gain objectives in the immediate front of these ground forces.”

[4] **United States Air Force, *A Proposed Revision of FM 31-35, Air Support of Army Operations*, March 1949:**

**“Close Air Support.** Air attacks on enemy forces actually engaged in the land battle are described as close air support, and demand quick and accurate application of air weapons.”

## II. Current CAS Definitions

[5] **Joint Pub 1-02, *Department of Defense Dictionary of Military and Associated Terms*, 23 March 1994:**

**“Close air support.** Air action by fixed- and rotary-wing aircraft against hostile targets which are in close proximity to friendly forces and which require detailed integration of each air mission with the fire and movement of those forces. Also called CAS.”

[6] **Field Manual 100-5, *Operations*, Headquarters Department of the Army, June 1993:**

**“Close Air Support.** Close air support (CAS) missions support land operations by attacking hostile targets close to friendly ground forces. CAS can support offensive operations with preplanned or immediate attacks. All preplanned and immediate CAS missions require timely intelligence information. CAS missions require positive identification of friendly forces and positive control of aircraft. CAS can enhance ground

force operations by delivering a wide range of weapons and massed firepower at decisive points. It can surprise the enemy and create opportunities for the maneuver or advance of friendly forces through shock action and concentrated attacks. CAS can also protect the flanks of friendly forces, blunt enemy offensives, enhance economy-of-force operations, and protect the rear of land forces during retrograde operations. Air Force, Navy, and Marine Corps aviation may be required to provide significant air support to Army forces during the entry stage of force-projection operations.”

**[7] Air Force Manual 1-1, Volume II, *Basic Aerospace Doctrine of the United States Air Force*, March 1992:**

“**Close air support.** Air action against hostile targets which are in close proximity to friendly forces and which require detailed integration of each air mission with the fire and movement of those forces.” (close to previous Joint Pub 1-02 definition, but adds, ‘fixed- and rotary-wing aircraft.’)

**[8] Air Force Manual 1-1, Volume I, *Basic Aerospace Doctrine of the United States Air Force*, March 1992:**

“Close air support is the application of aerospace forces in support of the land component commander’s objectives.

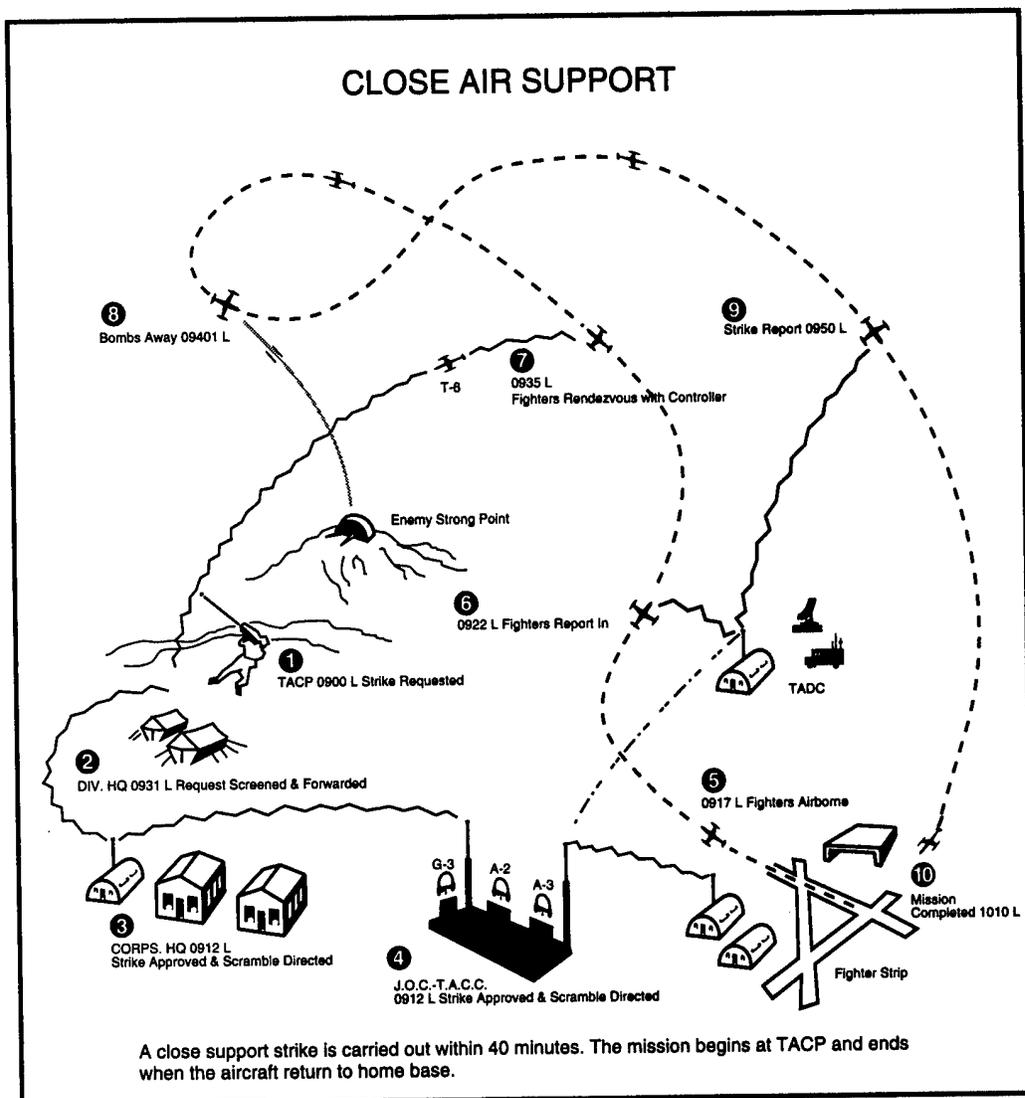
Close air support should usually be massed to apply concentrated combat power.

Close air support should create opportunities.

Close air support should be planned and controlled to reduce the risk of friendly casualties.”

## Appendix B

### Close Air Support Strike



**Source:** Robert F. Futrell, *The United States Air Force in Korea 1950-1953* (Washington, D.C.: Office of Air Force History, 1983), 82.

## Appendix C

### General Almond, Biographical Information

#### Edward M. Almond

12 December	1892	Born in Luray, Virginia
	1915	Graduated from Virginia Military Institute, third in class
	1916	Instructor of military science at Marion Institute, Alabama
17 March	1917	Commissioned a lieutenant in the US Army
June	1917	Took command of machine-gun company in 4th Division
28 March	1918	Promoted to captain
June	1918	Assigned to France for World War I
4 August	1918	First combat experience, wounded
September	1918	Commander, 12th Machine Gun Battalion, earned Silver Star
20 October	1918	Promoted to temporary major
	1919	Reverted to grade of captain/ROTC director, Marion Institute, Alabama
	1923	Student/Instructor, Advanced Infantry Course, Fort Benning, Georgia
Fall	1928	Attended Command and General Staff College, Fort Leavenworth, Kansas
13 August	1928	Promoted to major
	1930	Philippine Department, battalion commander for native scouts
	1933	Attended Army War College
	1934	War Department General Staff, Washington, D.C.
6 September	1938	Promoted to lieutenant colonel
	1938	Attended Army's Air Corps Tactical School, Maxwell Field, Alabama
	1939	Attended Naval War College, Newport, Rhode Island
18 October	1941	Promoted to colonel; Operations Staff, VI Corps, then CC
14 March	1942	Promoted to brigadier general
	1942	Assistant division commander, 93d Infantry Division (Colored)
23 September	1942	Promoted to major general/commander, 92d Infantry Division (Colored)
June	1944	92d Infantry judged combat ready for Europe
October	1944	92d arrived in Italy
April	1946	Garrison Division, Fort Lewis, Washington
May	1946	G1, MacArthur's Headquarters in Tokyo, SCAP
November	1946	Deputy chief of staff, Far East Command
18 February	1949	Chief of staff, Far East Command
September	1950	Commander, X Corps
February	1951	Promoted to lieutenant general
August	1951	Commandant, Army War College, Carlisle Barracks, Pennsylvania
1 January	1953	Retired from military, at 60 years of age

**Sources:** Capt Thomas G. Fergusson, *Conversations between Lieutenant General Edward M. Almond and Captain Thomas G. Fergusson*, from the *Senior Officers Debriefing Program* (Carlisle Barracks, Pa.: US Army Military History Institute, 25-30 March 1975 at General Almond's home in Anniston, Ala.); and Shelby L. Stanton, *America's Tenth Legion* (Novato, Calif.: Presidio Press, 1989).

## Appendix D

# Close Air Support of Ground Operations

**Memorandum For: Chief of Staff, USAF**  
**Subject: Close Air Support of Ground Operations**  
**From: J. Lawton Collins, US Army Chief of Staff**  
**Dated 21 Nov 50**

1. The purpose of his memorandum was to re-state his views with respect to Army requirements for CAS on ground operations and to propose the initiation of action designed to correct current deficiencies at the earliest possible date.
2. The following elements, each presented in more detail in the enclosure herewith, summarize my views:
  - a. The Army has no intention of attempting to take over the Tactical AF, not to form its own Tactical AF.
  - b. There is an indispensable requirement for adequate, effective air support for ground operations at all times.
  - c. This requirement is currently not being met satisfactorily.
  - d. This requirement should be met at the earliest possible date under conditions, and on a minimum scale, as follows:
    - (1) For overseas, provision of one fighter-bomber group per Army division and one reconnaissance group per field army or equivalent force, increased to two reconnaissance groups on full mobilization.
    - (2) For the Zone of Interior, provision of one fighter-bomber group per two Army divisions and one reconnaissance group for the present troop basis of seven divisions.
    - (3) The Army tactical commander, down to include Corps level in some instances, should exercise operational control of CAS units engaged in providing reconnaissance and fire support to the ground operation.
  - e. The Army should participate in the determination of general re-requirement of CAS aircraft, which should be designed primarily for CAS roles, to include types of missions and targets, necessity for all weather operations, reasonable operational endurance, and ability to operate from advance strips in combat zones.

f. The Army should be consulted in the development and standardization of CAS a/c and in testing and evaluating the end product.

g. The AF should make provisions in its organizational structure for adequate numbers of air liaison officers and tactical air control parties, and for adequate and suitable communications equipment.

3. I request you agree to the foregoing views. If you so desire, I would be glad to confer with you personally, at an early date, to discuss these elements.

**Enclosure to same memorandum:**

1. Although many observers have suggested that the Tactical AF should be integral in the Army, or that the Tactical AF should be provided, it is considered that such action would result in duplication of effort and excessive cost. The Army continues convinced of the practicability and desirability of unification as promulgated by law.

2. The availability at all times of effective tactical air support is one of the most urgent requirements for the success of our ground forces in combat. The importance of strategic bombing and the need for gaining and maintaining air superiority is fully appreciated; however, an indispensable requirement is the concurrent provision of adequate air support for ground operations. This support will continue to be unsatisfactory, if developed and furnished without assured consideration of the Army's views and the Army's requirements for training and combat support.

3.a. Experience in WWII and a study of the campaign in Korea indicate that AF units should be provided on the scale indicated in paragraph 2 d (1) and (2) of the basic memo. It is emphasized that these are minimum requirements to permit fulfillment of CAS responsibilities by the AF, and are so established to insure the least possible interference w/ the flexibility of the AF.

b. To resolve a more workable command relationship together with essential control features for CAS of ground operations, an agreement should be consummated at the earliest possible date. As set forth in the Agreement of 1 Aug 50, covering certain aspects of the control of Army anti-aircraft units by the AF, the air defense CC has been given the responsibility for announcing the basic principles of engagement for anti-aircraft fire units and fighter units in the Air Defense of the US. Similarly, the ground tactical CC should be afforded the same prerogatives in exercising operational control over tactical air units engaged in providing reconnaissance and fire support to the ground combat operation. To permit exploitation of the inherent flexibility of air fire power and to provide appropriate Army tactical commanders with a powerful resource in mass with which to influence the course of an action on the battlefield, this operational control should not be exercised below the Army Corps level. This should not preclude the use of

tactical air units, primarily assigned for CAS, in other roles, when not required for ground missions and when approved by the Army Group CC or by the next higher Joint CC.

c. It is a recognized fact that, in each theater, there should be a senior AF CC who retains and exercises the prerogative of re-allocating tactical air units from one subordinate AF command to another to fit changing requirements within the theater. It is emphasized, however, that CAS units once they are allocated should remain under operational control of the designated Army tactical CC, until an actual re-allocation is effected. Under this concept, the CAS units are clearly assigned a definite supporting role, under control of the CC upon whom rests the responsibility for success of the operation which the units are supporting. At the same time, the flexibility inherent in air power is retained for exploitation by re-allocation.

4. With regard to equipment studies, the Army has no vested interest in the detailed characteristics of AF equipment, but should participate in the determination of broad military characteristics, development, subsequent testing, and evaluation of the finished products in the field of CAS. That component of tactical air operation is so closely integrated with ground combat operations that the determination of operational capabilities and of certain military characteristics is considered to be a joint function of the AF and the Army. In this regard, these a/c should be designed primarily for CAS missions, with other missions such as air-to-air attack being of secondary importance in design. A/c employed for close support should have the maximum practical capability of locating and attacking promptly, under all conditions of weather and visibility, all targets which might threaten or impede, or be in close proximity to the supported unit.

5. With the acceptance of the "Operational Control" concept of close tactical air support a joint re-examination of the personnel and equipment requirements, of each Service, necessary to operate an effective air support system, should be undertaken. In conjunction therewith, firm doctrine should be established and effective training instituted, to include joint and cross-service training, in communications and tactical air control functions. The progress being made in joint training at Tactical Air Command/Army Field Forces level has been considerable. However, it does not appear that optimum results are being attained.

6. Immediate resolution of these important issues is of the most vital nature. An acceptance of anything less, by the AF and Army, than the best possible tactical air support and the most effective command relations to attain this objective would constitute a serious neglect in view of the present world situation.

(Sgd) J. Lawton Collins

## Appendix E

### Operational Control\*

17. Question: GENERAL COMMENTS: Please list any other deficiencies not covered (plus your opinions as to how they may be corrected) which would serve to increase the effectiveness of close air support.

Answer: a. Basic.—Unity of command is a cardinal principle in successful combat operations. However, the Army commander in combat zones must, under the present system, depend upon “cooperation” to obtain vital tactical air support. The ground commander is responsible for that portion of the war on land, however, he lacks authority over air support elements that obviously exert decisive measures upon his own operations. Utilization of tactical air must be closely integrated into the plans promulgated by Army commanders; therefore, the responsible ground commander must be able to direct, not ask for, the air support required. The only assurance a senior ground commander can have that any supporting arm will be employed effectively, or at all, is by having operational control over that supporting arm. (The JOC in Korea was under the complete domination of the Air Force.)

b. Flexibility in tactical air support.—The Air Force makes much of its need for flexibility in the employment of aircraft and continually cites this attribute as a need for centralized control at the Army-JOC-Air Force level. However, this flexibility is generally a one-way street and imposes an extremely inflexible condition of the ground commander in that his preplanned close support missions may be pulled off with little or no notice and he is not compensated by having strong air support on short notice in times of sudden crisis. In these times of sudden emergency, it was almost always necessary for the Corps Commander to personally intervene to get this required support. Under such circumstances, this sorely needed air support was too little or too late, in spite of the fact that our Air Force had no enemy air opposition in Korea.

c. Flexibility of planning.—The system in use in Korea during the first year permitted flexibility only at the JOC level from the viewpoint of the air force. It was almost completely inflexible in being responsive to requests from supported units. Although it was true that communications were incomplete, the basic concept was in error. A prior allocation for close

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\*Excerpt taken from letter, subject: *Effectiveness of Close Air Support*, 7 November 1952, from General Almond commandant, Army War College, Carlisle Barracks, Pa., to chief, Army Field Forces, Fort Monroe, Va., in response to survey sent to ground commanders who had employed close air support in the Korean War.

support (normal direct support) should be made and units notified. Then, if necessary, these planes can be diverted to higher priority missions which develop. Allocations to close support were made too late to permit proper planning and coordination. So much effort was placed on achieving what the Air Force called flexibility that the result was inflexibility and unresponsiveness from the viewpoint of the Army.

The situation can be compared to earlier developments in the artillery field. There, the WWI concept was massing in regiments and brigades with a later allocation to direct support. Now certain units are given normal direct support missions and have worked out systems which are responsive to the supported unit. There is, however, a flexibility which permits massing on one part of the front if the commander deems it necessary. As soon as this emergency or unusual situation disappears, however, the direct support units return to their normal mission and the general support units attack targets which do not necessarily affect the immediate regimental action.

A similar solution could be provided in the close support aircraft by a prior allocation of groups and/or squadrons to direct support of a Corps. When and if the Army Commander desired, priority and emphasis could be given to any one area. Then, when the emergency disappeared, previously allocated units could return to normal direct support missions.

d. Flexibility of control.—The control must rest with the commander controlling the battle. He must be empowered to say “go” or “no go” and to divert to other targets when he sees that results are ineffective. For example, a fighter flight with napalm, rockets and 50 cal. m.g.s is attacking a series of bunkers. The commander should be empowered to direct the dropping of napalm and rockets on the bunkers and divert the remaining portion of 50 cal. m.g.s to unprotected enemy behind the lines, thereby permitting ground weapons (artillery and mortars) to resume their attack.

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