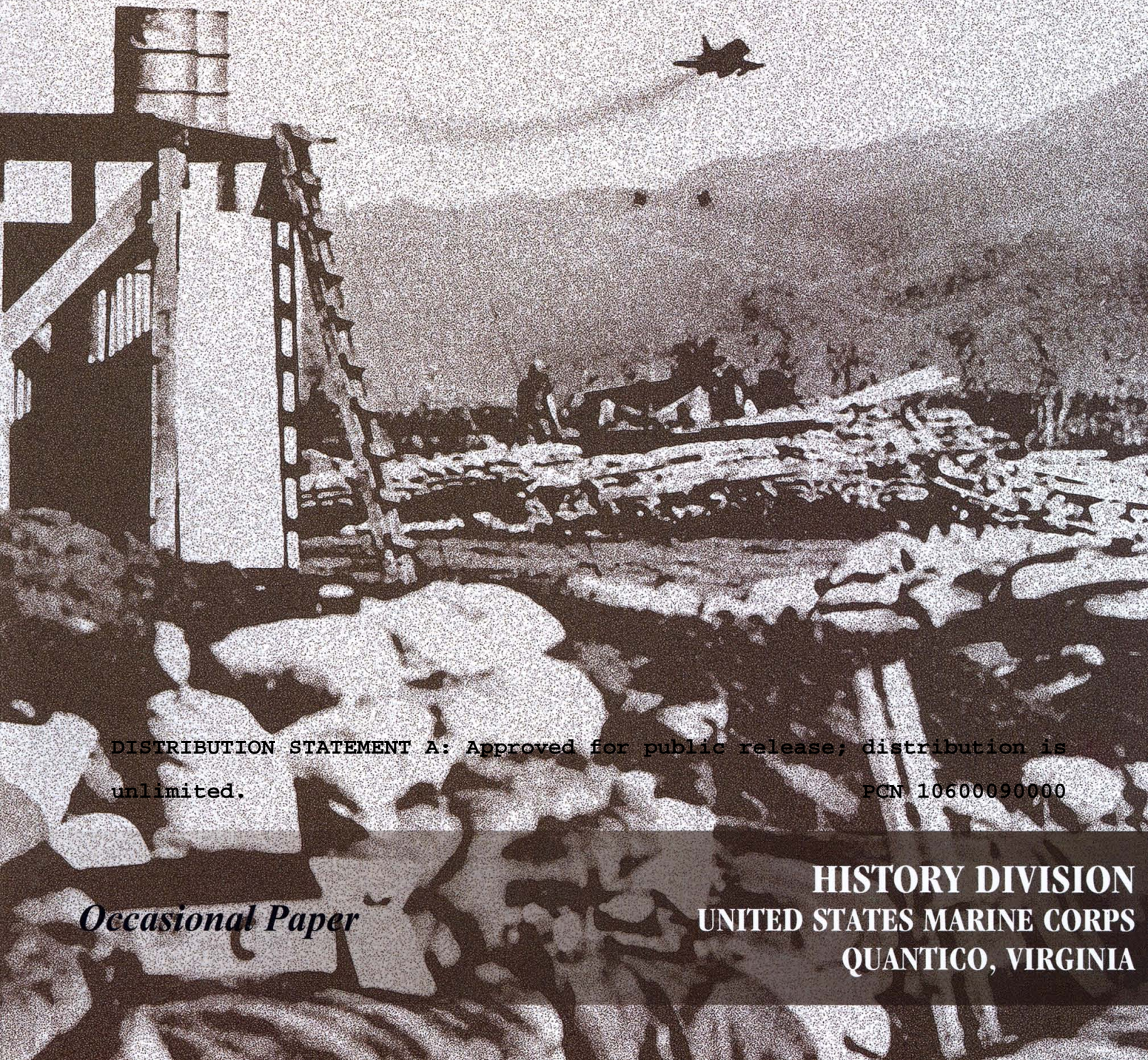


CLOSE AIR SUPPORT AND THE BATTLE FOR KHE SANH



Lieutenant Colonel Shawn P. Callahan
U.S. Marine Corps



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UNITED STATES MARINE CORPS
QUANTICO, VIRGINIA**

Front Cover: An A-4 drops two “snake-eye” bombs on a target close to the southern perimeter of Khe Sanh Combat Base in 1968.

Photo Courtesy of Robert Donoghue.

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Foreword

The History Division has undertaken the publication for limited distribution of various studies, theses, compilations, bibliographies, monographs, and memoirs, as well as proceedings at selected workshops, seminars, symposia, and similar colloquia, which it considers to be of significant value for audiences interested in Marine Corps history. These "Occasional Papers," which are chosen for their intrinsic worth, must reflect structured research, present a contribution to historical knowledge not readily available in published sources, and reflect original content on the part of the author, compiler, or editor. It is the intent of the Division that these occasional papers be distributed to selected institutions, such as service schools, official Department of Defense historical agencies, and directly concerned Marine Corps organizations, so the information contained therein will be available for study and exploitation.

This manuscript was developed from a master's thesis written by then-Major Shawn P. Callahan while an Advanced Degree Program student at George Washington University. The research was financially supported by the Naval Historical Center's Rear Admiral Samuel Eliot Morison Naval History Supplemental Scholarship Program and the Marine Corps Heritage Foundation's Lieutenant Colonel Lily H. Gridle Memorial Master's Thesis Fellowship Program.

As an occasional paper, this work is presented with limited stylistic correction and essentially stands as the author's revised thesis. Book layout and design by Emily D. Funderburke and W. Stephen Hill.



Dr. Charles P. Neimeyer
Director of Marine Corps History

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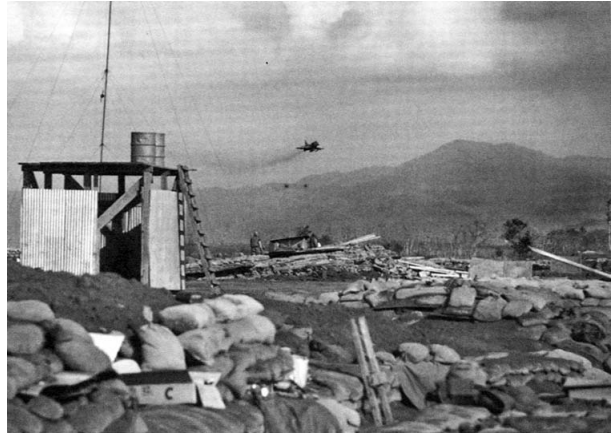
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Except for those noted here, all photographs in this work are official U.S. Marine Corps images. Photographs on the following pages appear courtesy of the listed individuals. Cover and page 9: Robert Donoghue. Page 23: David Steinberg. Pages 72 (top), 75, 78, 118, 128, 131, 135 (top): Joanne Schneider. Page 108: Ronald Smith. Page 109: Richard Dworsky. Page 134 (top), 136: David Powell. Page 134 (bottom): John Sabol.

INTRODUCTION

In the 77 days from 20 January to 18 March of 1968, two divisions of the North Vietnamese Army (NVA) surrounded a regiment of U.S. Marines on a mountain plateau in the northwest corner of South Vietnam known as Khe Sanh. The episode was no accident; it was in fact a carefully orchestrated meeting in which both sides got what they wanted. The North Vietnamese succeeded in surrounding the Marines in a situation in many ways similar to Dien Bien Phu, and may have been seeking similar tactical, operational, and strategic results. General William C. Westmoreland, the commander of the joint U.S. Military Assistance Command Vietnam (COMUSMACV), meanwhile, sought to lure the NVA into the unpopulated terrain around the 26th Marines in order to wage a battle of annihilation with air power. In this respect Khe Sanh has been lauded as a great victory of air power, a military instrument of dubious suitability to much of the Vietnam conflict. The facts support the assessment that air power was the decisive element at Khe Sanh, delivering more than 96 percent of the ordnance used against the NVA.¹

Most histories of the battle, however, do not delve much deeper than this. Comprehensive histories like John Prados and Ray Stubbe's *Valley of Decision*, Robert Pisor's *End of the Line*, and Eric Hammel's *Siege in the Clouds* provide excellent accounts of the battle, supported by detailed analyses of its strategic and operational background but tend to focus on the ground battle and treat the application of air power in general terms. Official Marine Corps histories predictably focus on the experience of the 26th Marines at the expense of the contributions of air forces. Air Force histories, including those written by historians well acquainted with both the U.S. Air Force and U.S. Marine Corps like Bernard C. Nalty, do analyze the application of air power in detail. They do not, however, make significant distinction between the contributions of the two primary air combat elements in this air-land bat-



An A-4 drops two "snake-eye" bombs on a target close to the southern perimeter of Khe Sanh Combat Base.

tle: the 7th Air Force and the 1st Marine Air Wing. An analysis of their respective contributions to the campaign reveals that they each made very different contributions that reflected very different approaches to the application of air power.

There is a fundamental cultural difference between the U.S. Marine Corps and U.S. Air Force that affects many, if not all, aspects of their approaches to preparing for and fighting the nation's wars. One of the most distinct manifestations is their individual treatments of close air support (CAS), defined as air action by fixed- and rotary-wing aircraft against hostile targets that are in close proximity to friendly forces and that require detailed integration of each air mission with the fire and movement of those forces.² Khe Sanh presents an opportunity to compare the different approaches of these two institutions since it was one of the few times during the Vietnam War during which the two services were united in their operational objectives, in this case the destruction of NVA forces around Khe Sanh. Detailed analysis shows that even within this unified objective, the institutional differences between the services yielded different approaches and different results. The Air Force sought to fight the battle using various sensors to locate targets around the fixed defensive positions of the 26th Marines,

which constituted little more than bait for the NVA. Once large NVA units were detected, the Air Force sought to unleash air power for their destruction, using fearsome weapons like the B-52 to attrite the NVA as they approached Khe Sanh. The Marines, meanwhile, sought to use air power to accomplish the more immediate objectives of the 26th Marines. While they acknowledged the utility of air power for a more distant battle of attrition when the situation permitted, the priority was for the destruction of enemy forces in the immediate vicinity of Khe Sanh that presented an imminent threat to the Marines attempting to maneuver or occupy defensive positions. In this respect, it can be said that the Air Force was more interested in engaging in Deep Air Support (DAS) rather than CAS.

The close confines of Khe Sanh and the threat imposed by enemy forces often prevented the two services from pursuing their preferred operational approaches to the battle. Instead, Marine and Air Force aircraft were often mixed, along with Navy aircraft, in both the deep and close battles. Even when this occurred, they each brought different strengths to the fight. The primary asset contributed by the Air Force was the massive firepower of the Strategic Air Command's B-52, which has been lauded as the decisive weapon of Khe Sanh. The sheer volume of this firepower, however, made it unsuitable for close battles, and the NVA sought to exploit this limitation by drawing close to Marine positions. When this occurred, the decisive element was the close air support provided by the tactical aviators of the 1st Marine Aircraft Wing (1st MAW), who were trained, equipped, and motivated to provide precision delivery of ordnance in ways and places where Air Force crews often proved untrained, ill-equipped, or unwilling. When Air Force crews did attempt to duplicate the close application of air power that the Marines specialized in, they sometimes met with disastrous results. The final conclusion is that although these distinct institutional ap-

proaches to close air support persist to this day, a careful examination of Khe Sanh reveals a victory not only of air power, but of complementary air forces: a strategically-oriented Air Force based on heavy firepower, and a tactical Marine air force that emphasized the close integration of air power with the fire and movement of friendly forces.

This work focuses mainly on fixed-wing close air support, or the support provided by jet and propeller-driven conventional aircraft, to the general exclusion of rotary-wing aircraft, also known as helicopters. There are several reasons for this, none of which are meant to belittle the contributions or heroism of the Marine, Army, and Air Force helicopter pilots who fought in the hills around Khe Sanh. First, until the arrival of the AH-1G Cobra in April 1969, there was no helicopter designed for dedicated close air support of Marines in Vietnam.³ The primary gunship during the battle of Khe Sanh was the UH-1E outfitted with machine guns and rocket launchers for the escort of unarmed helicopters. These helicopters were sometimes used for the direct support of ground troops with suppressive fires and were frequently used as forward air controllers, spotting and marking targets for fixed-wing aircraft with heavier ordnance. These roles are appropriately discussed alongside the contributions of the fixed-wing aircraft, but as a general rule, analysis remains focused on the heavier attack aircraft.

Perhaps an even more important reason for the general exclusion of helicopters as CAS aircraft, however, is that outside of the Marine Corp helicopters were considered organic assets of the Army divisions in Vietnam and as such were completely external to the U.S. Air Force command and control system. They were not part of the massed firepower the Air Force sought to concentrate at Khe Sanh. Marine helicopters, meanwhile, fit nicely alongside the fixed-wing aircraft in the Marine Air Command and Control System (MACCS), so that no distinction needs to

be made when discussing air request and control procedures.

The research methodology behind this paper reflects a broad approach. The main focus has been to reexamine the analysis of official operational and institutional historians and popular commemorative histories in order to develop an overlooked distinction. In order to do so, the author has examined the working notes upon which several of these histories have been written and returned to the primary sources, including official documents, memoirs, and oral histories, in search of nuances ruled insignificant by other historians. In cases where the records contain gaps or necessitate further explanation, the author has corresponded with veterans of the battle to seek their clarification on important issues.

This research has admittedly delved deeper into Marine Corps sources than Air Force sources for two reasons. Recognizing that all research is subject to time and resource limitations, official historians like Donald J. Mrozek and John Schlight have already developed excellent histories on the Air Force's culture and doctrine. Air Force histories of the battle of Khe Sanh also generally do a good job of detailing Air Force participation in the campaign, facilitating comparison with the performance of Marine aviation in the battle. As a very infantry-centric service, however, the Marine Corps had tended to overlook the details of the performance of its air arm throughout the history of Marine aviation, and the battle of Khe Sanh is no exception. In order to develop a picture of the culture of the Marine Corps with respect to aviation, the author has had to reconstruct some of the picture. Finally, since this paper focuses on close air support (both the Air Force and Marine conceptions), it is less important what avia-

tors thought about their performance than what opinions the infantrymen had on the support they were receiving. At Khe Sanh, therefore, the most important judgments on performance were the Marines of the combat base and its outposts. These men were naturally subject to some institutional prejudice in favor of Marine aviation, but their comments tend to be remarkably unbiased. The demands and personal risk of combat tended to quickly overwhelm parochialism. Marine infantrymen have historically been some of the harshest critics of the Marine air arm they demand so much of, and depend so heavily upon, and Khe Sanh was no exception.

For brevity's sake, the Marine Corps convention for identifying units has generally been maintained. The highest echelon of ground combat element typically identified by name is the regiment, which in Marine Corps parlance is referred to as the 26th Marines, instead of the 26th Marine Regiment. Individual battalions within each regiment are always identified with the parent regiment, so the 2d Battalion, 26th Marines becomes "2/26." The lettered companies within each regiment do not repeat within battalions, so technically Company F of the 2d Battalion, 26th Marines could be identified as F/26, since there is no Fox Company in 1/26 or 3/26. For clarity's sake, however, F/2/26 has been used in this paper, making it easier to keep track of parent units. The structure of aviation units discussed within this work can be especially confusing, but the appendices include both a Glossary of Acronyms and Terms (GOAT) and a listing of Orders of Battle for various friendly and enemy units that may help clarify the matter. Again, for brevity's sake, unless otherwise specified, all of the military servicemen identified in this paper are U.S. Marines.

CLOSE AIR SUPPORT DOCTRINES

What is Close Air Support?

Part of the reason for such wide differences in institutional approaches to close air support (CAS) is that this term means different things to different organizations. Essential to any detailed study of CAS, then, is a working definition. Such a definition is harder to come by than may be imagined since the only common feature the various military services agreed upon was that CAS involved the support of ground troops. By the early 1960s, even before the major U.S. involvement in Vietnam, the Joint Chiefs had agreed on a working definition of CAS as "Air action against hostile targets in close proximity to friendly forces and which requires detailed integration of each air mission with the fire and movement of those forces."⁴ This consensus, however, was purely one of form, certainly not of function.

In his study as a senior research fellow for the U.S. Air Force's Airpower Research Institute, *Air Power and the Ground War in Vietnam*, Donald J. Mrozek did an excellent job showing how various factors prevented a true consensus on what CAS really was and how it fit into operational plans. Between the services and civil authority, there was no consensus on the effectiveness of air power in World War II and Korea. Varying expectations for air power in Vietnam, also combined with an absence of clear political and strategic goals, all against a backdrop of interservice rivalry, only confused the situation.⁵ In combination, the vegetation, terrain, and weather, and the counterinsurgency mission to which air power was applied for the first time in Vietnam, presented new challenges which further altered service approaches to CAS.⁶ The two major CAS providers in Vietnam, the U.S. Marine Corps and U.S. Air Force, may have shared a common definition, but they had radically different approaches to CAS.

The U.S. Air Force Approach to CAS

In order to understand the radical difference

between the services with regard to close air support, it is necessary to go back at least as far as World War II. This high intensity conflict demonstrated the potential of air power as foreseen by a number of prewar air power theorists and provided opportunities for developing equipment, tactics, and doctrine. The most significant development was the realization of the vision that airspace existed as a separate medium through which military force could be directed to win wars and accomplish national policy. Although air support had proven critical to the successful conduct of air and sea campaigns, strategic bombing campaigns convinced many policy makers that the potential of air power could never be fully realized until it was unleashed from a subordination to land and sea forces. As a result, the U.S. Air Force was established as a separate service in 1947, and its leadership was populated by men who focused on the potential of air power as a strategic force, not as a military arm to serve the interests of the Army or Navy.⁷

Of course air power had many different applications, and the early leaders of the Air Force did not reject its importance in support of ground campaigns. As a result, in the postwar period the Air Force maintained a tactical air component alongside the strategic and air mobility components of the Air Force. Exactly how these tactical air forces would be employed, however, was open to significant debate. Tactical air forces were associated with three main mission areas: air superiority, interdiction, and close air support. Air superiority is defined as the control of airspace by denying its use to the enemy and the suppression of enemy air defense systems. With regard to priority, military theorists generally agreed that air superiority had to be first, since tactical air forces could not carry out their other missions while the use of the airspace was contested. Close air support was another mission, defined by the Air Force as the application of air power to attack enemy forces in order to assist

friendly ground forces in attaining their objectives. The third mission, air interdiction, came between CAS and strategic bombing directed against enemy industry and morale. Interdiction is the application of air power in order to deny the enemy the material and human resources it needs to win a battle or campaign by preventing its forces from reaching the battlefield. This may mean isolating the battlefield by destroying critical transportation links like railways and bridges, or it may mean attacking the military forces and supplies en route to the battlefield.⁸ Even before the Air Force was established as a separate service, in 1943 the Army defined an explicit priority for the use of tactical air forces: 1) air superiority, 2) interdiction, and 3) close air support.⁹ With the establishment of a separate air service, interdiction remained a much more attractive mission than CAS to air-centric leaders because it allowed them much greater latitude in the application of



A B-29 from the 19th Bomb Group, Far East Air Force, drops a stick of bombs over North Korea in February 1951. The heavy employment of these aircraft in a limited war reflected the Air Force's preference for strategic air power but did little to discourage the enemy from continuing to fight.

air power. It was also seen as capable of producing decisive results while not being mired in coordination with ground forces, and without having to acknowledge the subordination of air power or directly share credit for victory. In summary, in the post-World War II era, the Air Force sought to focus its tactical air forces on air superiority and interdiction, leaving close air support as an ancillary mission despite the concerns of the army it supported.¹⁰

This conflict in prioritization was manifest in the Korean War. When necessary, as in the early months of the war when the ground battle was so fluid, Air Force leaders were willing to focus on CAS, but the Army remained concerned about the responsiveness of the Air Force command and control system and was critical of the air service's efforts at meeting their needs.¹¹ Common was the complaint that the war was begun with only four tactical air control parties to coordinate air support in Korea, and only over time was this number built up to merely one team per regiment.¹²

In the late 1950s and early 1960s, the Air Force remained focused on its strategic missions, especially the nuclear forces that were being counted upon to deliver "more bang for the buck" under President Dwight D. Eisenhower's New Look at defense. This did not mean, however, that the value of tactical forces was completely overlooked. In 1956, for example, General Otto P. Weyland, who had recently returned from command of the Far East Air Forces, predicted that "the most likely conflict in the immediate future will be the peripheral type. In this event, it will be primarily a tactical air war."¹³ The idea was seconded in 1957,¹⁴ and the 1958 Quemoy and Matsu crisis convinced many that the Air Force had to maintain capabilities for non-nuclear conflicts. In practice, however, other than concluding the most basic joint agreements for Air Force support of Army ground operations,¹⁵ close air support got remarkably little attention. As a result, the Air

Force was unprepared for its initial involvement in Indochina.

The primary impetus for change within the Air Force was created by President John F. Kennedy's doctrine of flexible response. Regardless of the Air Force's lack of interest in "brush fire" wars, where strategic air power was of questionable utility, the new administration forced it to begin preparation. In April 1961, the 4400th Combat Training Squadron was formed at Eglin Air Force Base in Florida to begin training for the employment of air power in counterinsurgency. While the president's wishes were translated into a two-week course in counterinsurgency operations, there was no corresponding realignment of forces to provide the muscle. General Curtis E. LeMay was charged with conducting a review of the Air Force's suitability to meet the needs of the nation in the period from 1965 to 1975, but his project forecast yielded no substantive conclusions on the application of air power below the strategic level.¹⁶ Air Force leaders were clearly focused on other things besides how to best support ground forces.

Within months of its formation, a detachment of the 4400th Combat Training Squadron was deployed to Vietnam to train the Vietnamese Air Force (VNAF) to fight the Viet Cong insurgency. The October 1961 arrival of the training detachment, under the code name Farm Gate, brought in small numbers of C-47s, T-28s, and B-26s, which began flying from Bien Hoa air base near Saigon. These aircraft were repainted with South Vietnamese insignia and were required to carry a Vietnamese Air Force crewmember since the mission of Farm Gate was to train the VNAF. The American aviators, however, were de facto doing the fighting.¹⁷ The arrival of the 2d Advance Echelon of the 13th Air Force (based in the Philippines) in November formalized the U.S. involvement, as the new headquarters became the air component of the Military Assistance Advisory Group, Vietnam,

established in February 1962. The unit continued to grow in size and was later reclassified the 2d Air Division.¹⁸

The experiences of the Air Force as its involvement grew should have inspired an increased emphasis on Close Air Support. This interdiction-minded force, for example, found it impossible to anticipate exactly where decisive military engagements would occur in insurgency operations and so could not use air power to cut off the flow of men and materials to these "battles."¹⁹ Instead, air power could only be used reactively to support ground forces that had been met by the enemy at times and places of his choosing. The increasing involvement of the U.S. Air Force in a war where combat depended on contact by ground forces should have had a dramatic impact on its formation of a more effective CAS doctrine. Instead, the service dug in its heels in interservice disputes back in the United States, where the war was stressing already strained relationships.

In the interwar period, the U.S. Army was quick to perceive the diverging strategic viewpoints of the two services as it prepared for a major ground war in Europe. Since the Air Force was uninterested in supporting ground operations, the Army began strengthening its own air component, increasing the number of Army aircraft from 3,495 to 5,475 in the period from 1955 to 1959.²⁰ There were two consequences of the Army's willingness to provide for itself what the Air Force would not. First, it aroused Air Force leaders, who saw this fourth air force (the second and third being the aviation forces of the Navy and Marine Corps) as another competitor to challenge the senior air service's authority overall aviation matters.²¹ Second, it caught the interest of the efficiency-minded secretary of defense, Robert S. McNamara, who constantly urged the Army and Air Force to work out their differences in joint training exercises and field tests.²² While Air Force planners remained unconcerned with

sub-strategic missions and considered counterinsurgency too low of a level of war for the application of air power,²³ they found themselves both conducting an escalating counterinsurgency mission in Vietnam and engaging in a turf battle over close air support at home.

The U.S. Army had been calling for a joint doctrine on close air support since 1960, advocating maximum responsiveness through decentralized command and control of tactical aviation at the field army/tactical air force level under Army command.²⁴ In April 1962, Secretary McNamara asked for a reassessment of land warfare doctrine. The resulting Howze Board recommended that the Army develop its own air arm to assure a basic level of close air support, but also recommended that the Air Force more fully commit to supporting the ground battle by developing a single-mission aircraft specifically designed for CAS. Additionally, the Howze Board recommended that the Air Force formally agree to support ground operations with discrete numbers of sorties for various theater.²⁵

The Air Force's response was its Tactical Air Support Requirements Board, known as the Disoway Board, whose final report was published just one month later. The Disoway Board insisted on the consolidation of all air assets under a single Air Force commander, who would in turn answer to a joint task force commander and would respond to his directions regarding support for ground forces. Allowing the Army to pursue its own air-mobility concept was declared to be a dangerous dispersion of air power, contradicting the principle that concentration and centralization maximized effectiveness in combat.²⁶ The Disoway Board also explicitly rejected the idea that the Air Force should develop a CAS-specific aircraft, insisting that multiple-use aircraft allowed greater flexibility for the application of air power.²⁷ Essentially, in response to McNamara's direction that the Army and the Air Force reevaluate their

perspectives of air-ground cooperation, the two services restated their previous positions on the issue.²⁸

Unsatisfied, McNamara ordered a joint Army and Air Force examination of close air support in February 1963. When the two services met in April, they again failed to produce any significant agreement and came to an impasse over the central issue of command and control. The Army argued for decentralized control of air assets under ground commanders, while the Air Force insisted that an air commander should prioritize targets and schedule strikes.²⁹ While there was little agreement, the joint exercises that soon followed were significant.

In the fall of 1964, the Army and Air Force participated in the largest joint exercise since World War II, known as Operation Desert Strike. In the deserts of Southern California it became apparent that the two services would have to compromise if they were to work effectively on the same battlefield. The Air Force admitted that its command and control system had become too disconnected from ground operations and developed new links to reconnect them. These improvements included a new agency that would provide a liaison team to the Army at the corps level, known as Air Support Operations Centers (ASOCs). The ASOCs changed the role of Air Liaison Officers (ALOs) from mere advisers to staff officers with operational responsibilities for seeing that air and ground operations were successfully integrated.³⁰ The Army gave in on its call for a hard commitment on sortie numbers, agreeing that the joint commander would decide how many sorties would be apportioned to CAS and interdiction missions on a daily basis. The Air Force, in turn, agreed that the ground commander would allocate the specified CAS sorties to subordinate commanders for the decentralized application of air power according to the needs of the lower echelon units in contact with the enemy. The Air Force also agreed

to provide tactical air control parties down to the battalion level in order to provide a link between the lowest maneuver unit and the air power that would support it.³¹ In short, the joint vision for the application of close air support between the Army and Air Force came to resemble the system the Marine Corps had already established in practice. Unfortunately, the Air Force was uncommitted to translating that vision into an air-ground team that was as capable as the Marine Corps.

The escalation in Vietnam was concurrent with the growing Army-Air Force cooperation and provided not only urgency to help them overcome their differences, but also a place to try out their new solutions. In 1965, the two services took the first steps by replacing the rudimentary air command and control system with a new one. At Tan Son Nhut Air Base near Saigon, the Air Operations Center (AOC) continued to serve as the primary control agency for all operations in South Vietnam, but now four ASOCs were established, one each in the I and II Corps Tactical Zones, one to cover III and IV Corps, and one final ASOC to float between regions and handle special operations as needed.³²

When U.S. ground combat operations escalated, the number of CAS sorties increased dramatically, from 2,392 in January 1965 to more than 7,000 in June and 13,000 in December. By August 1966 they were averaging 15,000 a month.³³ These numbers can be deceiving, however, since they suggest that the Air Force was focusing its efforts on close air support. In fact, a key Air Force leader who arrived in July 1966, General William W. Momyer, was driving operations in the opposite direction. Momyer took command of the 2d Air Division, which was redesignated the 7th Air Force in March 1966 due to the increasing numbers of U.S. aircraft in South Vietnam. In this position, Momyer also served as MACV's deputy commander for air operations.³⁴ Momyer was a talented and aggressive leader who was an ardent

believer in the supremacy of air power. His perspective of this unconventional war was that it had no front lines except the 17th parallel. North of that line, he considered anything that might support the enemy effort to be fair game for his aviators.³⁵ Within South Vietnam, Momyer admitted that his aviators would have to be more discriminating in the application of air power and would often have to work with ground forces. He considered the results of this cooperation to be disappointing, however focusing on problems like those encountered in October 1966 during an enemy assault on Loc Ninh, just three months after he took command. The Air Force supported the defense with 700 tactical sorties but was not rewarded with even a single confirmed casualty for these efforts.³⁶ Aircraft were used in conjunction with artillery to drive the enemy back, but it was noted that the aircraft found themselves restricted in their ability to support the defense because they had to wait for the artillery to stop firing before they could enter the airspace to attack. In light of these events, ardent air power advocates like Momyer saw cooperation, with ground forces as a hindrance. The easy solution was to not to solve the problems of integrating air and artillery attack, but to condemn it. Momyer developed a new view of air-ground cooperation, and saw the typical engagement as one in which ground forces found and made contact with the enemy until aircraft would arrive to destroy them. In his memoirs, Momyer went on to elaborate:

All ground operations were designed to seek out the North Vietnamese and VC and to force an engagement in which our superior firepower, particularly air power, could be employed. It was our policy that after contact with the enemy was established, our ground forces would pull back a sufficient distance to allow artillery and air power to be used without restraint. Then the Army would follow up these attacks with reaction forces.³⁷

Momyer was not alone. A contemporary Air Force study also overlooked the benefits of synergistic close cooperation, stating that "Air Power was used effectively in its traditional roles as well as in compensating for shortages or as a substitute for ground forces."³⁸

It can be seen, then, that despite interservice agreements and CINCPAC's clear directive in April 1965 to focus tactical air forces on CAS, by the time Khe Sanh became a place of significance in 1967 and 1968, the U.S. Air Force still considered true close air support to be a secondary mission. Part of the reason for this was that the Air Force still operated under the unspecific 1956 definition of CAS, as air support or cooperation provided to friendly surface forces, consisting of air attacks with guns bombs, guided airborne missiles or rockets on hostile surface forces, their installations, or vehicles so close to surface operations as to require coordination between air and friendly surface forces.³⁹

It is important to note that this definition is based on proximity to friendly ground forces. It does not imply a subordination of air power to objectives established by ground commanders, and suggests that coordination with ground forces was an incidental hindrance, rather than a tool for synergistically integrating supporting arms.

This very loose definition of CAS only blurred the already unclear line between CAS and interdiction, leaving the Air Force plenty of room to still fight the war the way is best thought fit. Because of the danger of attacking friendly forces and civilians within South Vietnam, the entire country was declared to be within the bomblines⁴⁰ (today known as the Fire Support Coordination Line, or FSCL), and all operations within South Vietnam were technically classified as CAS. As such, the rules of engagement required that all air strikes be under the direction of a forward air controller, and that all targets be further approved by the

Vietnamese province chief and by corps-level military officers of the U.S. and South Vietnam.⁴¹ At any given time, however, the vast majority of South Vietnam did not fall within the tactical operating area of one ground unit or another, and so, there was no unit to be supported in these missions or FAC to coordinate them. To service these areas and get around the restriction, the Air Force sought to use mobile FAC(A)s in observation aircraft. Unfortunately, it had no aircraft suitable for the task despite the key roles observation aircraft had played in the Korean War, and in Indochina for the French. Following the Korean War, the Air Force had declared disinterest in the mission and had actually given all of its L-19 aircraft to the Army, which then had to provide its own aerial observation services.⁴² With the Farm Gate deployment of aircraft and Air Force "advisors" to Vietnam in 1961, the Air Force suddenly found itself dependent on the small number of Vietnamese Air Force FAC(A)s for locating targets for its faster attack aircraft. As a result, in 1963, the Air Force took twenty-five L-19s (now redesignated as O-1s) back from the Army, and in June deployed them to Vietnam as the 19th Tactical Air Support Squadron.⁴³ Although the Air Force did its best to make it appear that this was a proactive decision made in the interest of providing better support to Army combat battalions, when backed into a corner by a congressional subcommittee investigation, it could not deny that the move was purely a reaction to unforeseen shortcomings in Vietnam.⁴⁴

Prior to the deployment of U.S. ground combat forces in Vietnam in 1965, the Air Force erected a forward air control system centered on the FAC(A). Ideally, four to six Air Liaison Officers and FAC's were assigned to each of South Vietnam's 44 provinces. These became known as "area FACs" since their primary responsibility was territorial, rather than to ground units which might be operating in that province. These FACs were recruited from various Air Force commands to serve their entire

overseas tours advising the province chiefs, and were provided with a checkout as an O-1 pilot, as well as FAC-specific training.⁴⁵ Their primary responsibility was reconnaissance,⁴⁶ although they could and did control attacks by strike aircraft when suitable targets could be found and approved by the province chief. As direct U.S. involvement in the war increased in 1965, General Westmoreland directed that this reconnaissance effort by area FAC's be organized for more comprehensive coverage. The country was then further divided into sectors, each of which could be inspected in two hours. Ideally, each sector would be covered by at least one O-1 each day, and the same FAC(A) would patrol the same sector day after day, gaining great familiarity with the terrain and its inhabitants. This goal proved problematic, since even after the formation and deployment of three more O-1 squadrons to Vietnam in 1965, such coverage proved beyond the capabilities of the Air Force. The efforts of the 110 Air Force O-1s were joined by 152 Army and 114 Vietnamese Air Force O-1s in a joint effort, but these still proved insufficient to meet Westmoreland's intent. In the densely vegetated or heavily populated area it sometimes took several O-1s up to eight hours to conduct a through search of a single sector, and a 1966 RAND study found that only 65 percent of the sectors were covered daily.⁴⁷ As far as directing offensive operations, the Army O-1 pilots were trained only to spot for artillery, and VNAF FAC(A)s were not permitted to control air support for the blossoming number of U.S. Army units appearing in the provinces after 1965.

By the end of 1965, the Air Force had erected its FAC(A)-based air control system. Each of the four corps tactical zones in South Vietnam were provided with a 30-aircraft O-1 squadron, and each corps headquarters was provided with a Direct Air Support Center (DASC) to control the application of air power within each zone.⁴⁸ While these "area FACs" were able to provide some cov-

erage to each province, the Tactical Air Control Parties (TACPs) that had been promised by the Air Force to serve as the link between the Army's maneuver battalions and the Air Force support structure were rare. Despite an agreement in spring 1965 to provide two FACs to each Army combat unit from the battalion level on up to the field army, the Air Force simply did not have enough FAC's. The problem was exacerbated by the Air Force's insistence that these FACs be fighter attack pilots (designated as "Class A" FACs, in contrast to the full-time "Class C" FACs assigned to the provinces). The air service had the best of intentions with this policy, which was designed to provide highly qualified ground FACs to U.S. Army ground combat units, leaving the FAC(A)s to support ARVN units.⁴⁹ Unfortunately, the expanding air war was simultaneously placing very high demands on this same manpower pool. As a result, unlike Marine TACPs, which early in the war provided three FAC-qualified aviators to each battalion to enable two FACs to move with and control air support for the company-sized elements actually engaged in combat with the enemy, Air Force TACPs included only a single Air Liaison Officer (ALO). This officer remained in the battalion headquarters behind the companies and platoons engaging the enemy, with the only radio capable of talking to aircraft. As a result, when infantry units needed air support, they had to relay their request back to the battalion headquarters, where the ALO would submit the request for support to the air command and control system, and communicate with the aircraft to direct its attack.⁵⁰

The manpower situation only got worse, forcing the Air Force to further compromise its commitments to both the quality and extent of FAC support it provided. By October 1965, the shortages were severe enough that the requirement for TACP (Class A) FACs to have one year of current fighter experience was waived.⁵¹ Despite this compromise, the Air Force was unable

to meet more than about half of its commitment to the Army, and one year later it began to pool its FACs at the brigade level,⁵² reducing their familiarity and access to the battalion- and company-level units actually in contact with the enemy. In 1966, the rules of engagement for the control of air strikes were also modified. Under this revision, free-fire areas could be designated by MACV in which targets could be attacked without the permission of a province chief or higher military authority. If no U.S. Air Force FACs were available to support U.S. Army units, then Vietnamese FACs could be used, or ground commanders and U.S. pilots could direct attacks without the clearance of any FAC at all.⁵³ Ultimately, despite a series of compromises, the Air Force was never able to meet its obligations to the U.S. Army during the peak years of U.S. involvement on Vietnam. The first time 100 percent FAC manning was reached in South East Asia was in December 1970,⁵⁴ when U.S. ground combat unit deployments, and therefore FAC demands, had begun to decline precipitously. It is telling that even as the Air Force was compromising its policies for ground FAC assignments and still failing to meet its commitments, the air service found a means to establish a fifth observation squadron to provide FAC(A) coverage for aerial interdiction missions along the Ho Chi Minh Trail.⁵⁵ In Vietnam, the Air Force's peacetime neglect of its obligation to support the Army with ground FACs simply proved too difficult to overcome, especially when Air Force leaders believed they had new opportunities to win the war from the air.

The air service rationalized its failure to meet its commitment to support infantry units by increased reliance on FAC(A)s, which it believed could serve the dual purposes of supporting maneuver units and covering the regions not incorporated into the operations of ground units. The main reason for this emphasis, stated by General Momyer himself, was that, "As in Korea, the Vietnamese terrain seriously restricted the utility of

FACs on the ground. The airborne FAC was the only effective way of controlling a strike."⁵⁶ The vegetation and terrain in Vietnam undoubtedly complicated a ground FAC's job—the Marine Corps' increased reliance on FAC(A)s is evidence that they were indeed useful. The Marine Corps, however, increased its reliance on Airborne FAC's as a supplement to the critical link that a ground FAC provided. The Air Force developed the airborne FAC as a replacement, and as a result, the Air Force FAC(A) often hunted independently within his assigned region, and directed "close air support" at his own discretion in interdiction-type missions, rather than in support of ground operations.⁵⁷

For the Air Force, the primary requesting and controlling agency for air strikes within South Vietnam was not a ground FAC in a TACP assigned to an Army unit, but the airborne FAC roaming about to hunt independently, unless a ground unit happened to be in his area. By 1968, over 60 percent of all targets generated were products of the airborne reconnaissance effort, not the ground combat units which could sustain contact with the enemy and which should have been supported as the basic consumers of CAS.⁵⁸ Essentially, instead of dividing operations within South Vietnam into two separate categories, CAS when supporting ground units and interdiction when working independently of them, the Air Force lumped them all under the category of CAS and a single rules of engagement set that essentially left it up to the FAC(A)s to decide when and how much they wanted to cooperate with ground forces. The vast majority of these FAC(A)s were ready, willing, and anxious to render whatever assistance they could provide to ground forces, but the fact remains that there was no clear institutional distinction in air operations as to when air power became a subordinate, supporting effort to ground operations. As General Momyer related, "At all times, the [airborne] FAC was the final air authority on whether or not the

strike would continue. He was, in fact, the local air commander for the conduct of air operations; and his authority was recognized by the ground force commander and flight leader alike.”⁵⁹

Significantly, the training these FACs received did little to disrupt the air-centric approach to CAS. As a result of the various policy changes, during the years of peak U.S. involvement in Vietnam, the typical Air Force FACs were young captains who had already completed the first six-months of their tours in Vietnam as pilots in fighter squadrons, and they provided forward air control from observation aircraft, not on the ground. Although some were attracted to FAC duty by more progressive views about the application of air power in support of the ground war, giving up one’s seat in a high performance jet fighter aircraft at the pinnacle of the Air Force’s warfighting hierarchy to fly a slow, low-flying, lightly armed observation aircraft was probably not seen as a prestigious assignment. Little was done to prepare these FAC(A)s to serve as the Air Force’s primary link to the ground forces. They had no personal exposure to the challenges faced by ground commanders or other supporting arms like artillery, and retained the air power-centric viewpoints they had been indoctrinated with their entire careers. Even when they had the training required to adjust artillery fire, Air Force FAC(A)s usually flew solo, and there was a limit to how much coordination with ground forces a single pilot could do while flying his plane. Institutionally, the Air Force declared the coordination of ground fire to be simply too complicated to be done while simultaneously directing aircraft.⁶⁰ Air Force FAC(A)s preferred the more familiar job of scouting out targets on their own, rather than having to deal with ground operations and the accompanying complications that they did not understand or consider vital to how the war was fought.

U.S. Air Force Aircraft

The Air Force’s distaste for CAS operations was also reflected in the poor array of close air support equipment which it brought to Vietnam.



An F-84F Thunderstreak fires 5-inch rockets at ground targets in Korea. When pressed to fulfill its commitment to provide ground support forces for the U.S. Army, the Air Force’s insistence on developing multi-role fighter bomber jet aircraft whose armament and high speeds and made them less than ideally suited for CAS when called upon to support the Army in that mission.

It has already been shown that the U.S. Army pushed for the Air Force to develop a single-mission CAS aircraft to ensure that its aircrews were not distracted by other missions in training and war. The Air Force, on the other hand, insisted on multi-role aircraft. In general, this meant a preference for versatile jet fighter-bombers which would be more survivable on dangerous missions striking deep into enemy territory. These aircraft were able to carry more ordnance than propeller-driven aircraft, were faster and therefore often more responsive, but on the whole they were not as suitable for CAS missions. Propeller driven aircraft had a longer loiter time to provide more coverage, and flew slower attacks, giving the pi-

lots more time to acquire targets.⁶¹ As a result of its multi-role focus, the Air Force did not develop a single aircraft designed even primarily for CAS after World War II,⁶² until it learned some hard lessons in Vietnam, at the expense of the Army troops it had agreed to support. Although the Air Force had approximately 1,000 aircraft in Vietnam at the time of the siege of Khe Sanh in 1968 (as shown in Appendix B), and began augmenting this number with aircraft based in Thailand in January of that year,⁶³ the service was unable to support ground units as effectively as it would have had proactive action been taken to develop specialized CAS aircraft before the war escalated.

Once committed to the war, the Air Force came to the realization that it was somewhat unprepared, and in May 1964 it actually obtained a number of two-seat propeller-driven A-1E and A-1H Skyraiders from the U.S. Navy, along with a squadron of navy pilots to serve as training cadre for the new aircraft. With their long loiter times and heavy ordnance loads, these aircraft had proven well-suited for CAS missions in the Korean War, and the Navy had kept them in active use. They were effective enough that the Air Force kept them in service to provide close air support for the rescue of downed pilots—a CAS mission the Air Force was certainly committed to—until 1972, and even considered reopening the production line. By and large, however, the initial acquisition of this particular aircraft was probably motivated more by a political restriction against deploying jet aircraft to Vietnam than by a desire for more suitable CAS aircraft. A new provision in January 1965 permitted the use of jets in emergency situations and without a VNAF observer aboard, allowing the immediate employment of B-57s in South Vietnam. A rapid buildup and dominance of less-suitable multi-role F-100 Super Sabres and F-4 Phantoms followed shortly thereafter.⁶⁴

Later in the war, the Air Force did employ aircraft specifically adopted for CAS, but the impe-

tus for their adoption was not an altruistic motivation to provide better CAS service. Continued dissatisfaction with Air Force support in the wake of the 1964 and 1965 interservice agreements led the Army to make its attack helicopter a high priority. The Army's insistence on developing its own attack helicopter eventually reignited the turf battle and forced the Air Force to revise its position on multi-role aircraft. To justify its program the Army gave its aircraft's mission another name: Aerial Fire Support (AFS). Of note, the fact that the Army defined AFS as the application of "discriminatory firepower in close proximity to ground combat elements"⁶⁵ suggests that the Army did not consider the Air Force's application of firepower in CAS to be very discriminatory. The Army program came to fruition with the introduction of the Huey Cobra to combat service in Vietnam in November 1967. Although the Marines at Khe Sanh never benefited from the support of this weapon, it did cause the Air Force to respond by reversing its policy on purchasing CAS-optimized aircraft.

Since 1963, the Army had urged the Air Force to participate in the Navy's light attack aircraft (VAL) program, which later gave birth to the A-7A Corsair, A-6A Intruder, and A-4 Skyhawk. The Army tried to appeal to the Air Force's emphasis on multi-role aircraft by advocating the Vought A-7, which had been designed for CAS, but had the versatility to perform other missions as well. The A-7 was rejected by the Air Force because it was not supersonic, a feature with no application in the support of ground troops.⁶⁶ After the frustrated Army began to pursue its own CAS aircraft programs, however, the Air Force adopted the Navy design. It redesignated its version the A-7D, which was not operational in Vietnam until October 1972, after the withdrawal of ground combat forces.⁶⁷ The concession was made, once again, only when the Air Force's doctrinal turf was threatened. Of note, since it ultimately appeased the Army by purchasing the A-7, the Air Force

also rejected some other fine multi-role products of the Navy's VAL program. Among them were the A-6 Intruder, a medium attack/CAS aircraft capable of bombing day or night in all weather conditions, and the A-4 Skyhawk, a light attack/CAS aircraft designed for visual bombing.⁶⁸ The robust all-weather attack capabilities on the A-6 were not obtained by the Air Force during the Vietnam War until the combat deployment of the F-111A in September 1972, after ground troops had been withdrawn.

The Air Force followed the A-7 precedent by participating in several other quick-fix aircraft programs as a result of its experience in Vietnam. In 1966, it contracted the Cessna Aircraft Company to modify an existing aircraft for counterinsurgency CAS missions. The most suitable airframe in the Air Force arsenal was a jet train-

The AC-47 Spooky, popularly known as "Puff the Magic Dragon" because of the huge volume of tracers its three 7.62mm gatling guns could be seen delivering at night, was an excellent CAS aircraft developed by the Air Force. It was, however, developed primarily as an interdiction platform, and the Air Force made the program a low priority until the weapon proved critical in several engagements on the eve of U.S. escalation in Vietnam.



ing aircraft adopted in 1952! Thirty-nine T-37Bs were improved with armor plating, upgraded avionics, and 7.62mm miniguns to create the A-37A Dragonfly. This aircraft however, did not see full combat deployment in Vietnam until 1968. As a multi-purpose ground support aircraft to replace the A-1's borrowed from the Navy, the A-37A and A-37B had a number of faults, and was considered effective only in the most permissive threat environments.⁶⁹

The Air Force did develop one group of superior CAS platforms, the AC-47, AC-119, and AC-130 gunships, but in many ways the contribution was unintentional. C-47s had been used in ground support missions as early as World War II, when they were employed to drop flares to illuminate targets for B-26s flying night interdiction missions.⁷⁰ The Air Force developed a plan to mount heavy guns in the fuselage of the C-47s, which could deliver huge volumes of fire on ground targets as the aircraft orbited overhead. The platform was designed to be used on interdiction missions more than it was for CAS, but it was obvious that it could serve either role in supporting President Kennedy's low-intensity counterinsurgency vision for the United States in Vietnam in the early 1960s.⁷¹ Despite the utility of the aircraft, the Air Force dragged its feet and the program was retarded from 1961 to 1964. As a ground support platform it did not have the support of Air Force leaders with more conventional views about the primacy of air power.⁷²

Operational testing of the AC-47 "Spooky" finally began in Vietnam in 1964, and it was the experience of that year that solidified the gunship's role as a CAS platform. The slow-flying, relatively unmaneuverable, and poorly armored aircraft proved to be too vulnerable to ground fire for interdiction missions in high-threat areas like North Vietnam. On the other hand, the endurance of these slow propeller-driven aircraft proved to be a great asset. Their slow speed

decreased their response time when launched from a ground alert, but once they arrived in a battle area, they could remain on station for six to ten hours. This made them available to immediately respond to requests for support and able to maintain a continual presence for follow-on attacks. The aircraft carried its own parachute flares which could be dropped to illuminate targets at night, and its slow orbit at low altitudes allowed its crews to carefully discriminate enemy from friendly forces, and fire at these targets in close proximity with great accuracy. The aircraft's three SUU-11A 7.62 mm Gatling guns could deliver a total of up to 18,000 rounds per minute, so that in one minute a gunship could cover an area one-third the size of a regulation football field with a round in every square foot. One in every few bullets was a red tracer that could be seen from miles away at night, earning the aircraft the popular nickname "Puff the Magic Dragon" after the mythical fire breather.⁷³ The experiences of 1964 showed that the AC-47 was a decisive factor in the defense of a number of outposts, especially at night and during poor weather conditions, when other attack aircraft were unable to provide reliable and continuous support.⁷⁴ Only after this immense success and widespread acclaim of the C-47 emerged in 1964 did the gunship program get full support from within the Air Force. The next year, after the presence of U.S. ground forces was escalated significantly, the 4th Air Commando Squadron was deployed to Vietnam with the primary mission of ground support.⁷⁵ These 14 aircraft were mainly used in night CAS missions where they proved so superior to other CAS platforms, that within a few months they were operating out of numerous bases to cover all four of South Vietnam's corps tactical zones.⁷⁶

The success of the AC-47 program led to the development of two other gunships, modified from the C-119 and C-130 aircraft. The AC-119 Shadow was optimized for the CAS mission with

improved sensors for target acquisition. When it was deployed to Vietnam in late 1969, it included improved flares, two 20mm Gatling guns, and jet assistance for takeoff. The AC-130 Spectre was a parallel program, specifically designated not as a CAS weapon, but to fill in the AC-47's original intended mission as a long-range interdiction platform.⁷⁷ The Spectre included low-light TV and infrared sensors for improved target acquisition at night without having to drop flares which would make it more visible to the enemy. Although the Spectre did not see full operational deployment to Vietnam until late in 1968, prototypes were flying in combat in late 1967.⁷⁸ This interdiction platform proved to be a very capable CAS weapon, and it is possible that some of them flew in support of Khe Sanh.

In the observation roles, the Air Force also found jet aircraft unsuitable for use in South Vietnam, and depended on the propeller-driven O-1 and O-2A for FAC support.⁷⁹ It has already been shown that the USAF completely discarded the O-1, along with its commitment to provide forward air controllers to support ground forces, after the Korean War. By 1963 it had returned the O-1 to operational use, and its numbers were soon augmented by the higher performance O-2A, which offered additional coverage at night. The Air Force did join the Light Armed Reconnaissance Aircraft program initiated by the Marine Corps in 1962 to replace the O-1, but did not become a strong supporter until late in 1965, two months after a Congressional subcommittee visited Vietnam and urged an acceleration of the program.⁸⁰ The OV-10 which resulted was a superb FAC(A) platform, but was not survivable enough for duty in North Vietnam on strike coordination and reconnaissance missions. Since operations north of the DMZ did not require the detailed target area situational awareness necessitated by the presence of friendly troops, the Air Force used the F-100F there as a TAC platform beginning in June 1967.⁸¹

The Marine Approach to Close Air Support

The Marine Corps' approach to close air support differed from the Air Force's because the Marines viewed ground combat forces as the primary instruments for winning battles. Air power was valued almost exclusively based on its contribution to the ground battle. For this reason, CAS was considered the most important mission of Marine aviation, and the Marine Corps focused the lion's share of its aviation effort on developing and refining its CAS capability. As the senior aviator in the Marine Corps put it just months before the siege of Khe Sanh, "Marine aviation is a tactical air arm. Its sole mission is to provide support to the ground forces." Because of this, CAS, he went on to elaborate "is a Marine hallmark."⁸²

All three of the U.S. military services of the early 20th century began their interest in aviation as a new arm which could support surface operations. While the Navy and Army saw men like

Billy Mitchell, who envisioned air power as a new, independent dimension of warfare, as a threat, the Marine Corps maintained the primacy of surface combat and embraced air power as a force multiplier. The pattern of close cooperation between Marine air and ground arms was recognized as a military virtue. In 1926, even as the other services were engaged in heated debates about the role of air power, Major Edwin H. Brainard, the Director of Marine Corps Aviation, stated,

"To obtain maximum results, aviation and the troops with which it operates should be closely associated with each other, and know each other, as well as have a thorough knowledge of each other's work.... Marine Aviation is not being developed as a separate branch of the service that considers itself too good to do anything else. Unlike the Army Air Service, we do not aspire or want to be separated from the line or to be considered as anything but regular Marines."⁸³

Major Roy S. Geiger (left), a Marine pilot who would later command the III Amphibious Corps, and very briefly the U.S. Tenth Army in World War II, and five other officers in Port au Prince, Haiti, in 1926. Even before the battle of Ocotal, Nicaragua, in 1927, the event traditionally identified as the first time Marines conducted close air support, extensive cooperation between air and ground units in the "Banana Wars" encouraged the development of the Marine Corps' air arm as a tactical force multiplier for ground forces.



While both the Army and the Marine Corps experimented with aircraft in support of ground attacks during World War I, the Marine Corps was the first to truly integrate air operations in support of ground maneuver. As a combined arms tactic, CAS was successfully executed for the first time in Nicaragua in the defense of the town of Ocotol from Sandino Rebels on 16 July 1927.⁸⁴ What made this situation unique was the unprecedented control of dive bombing attacks by Marine riflemen who were conducting simultaneous attacks on the ground.⁸⁵ As the Marine Corps evolved from its colonial, counterinsurgency role to an amphibious assault force in the late 1930s, Marines continued to refine the use of aircraft in support of ground operations. From 1935 through the start of World War II, Marine squadrons participated in all of the annual fleet landing exercises, refining their close air support techniques. During this period they also became convinced that a specialized attack aircraft was needed for effective close air support, rather than depending on multi-role fighter and observation aircraft whose dramatically increasing performance made them too fast for proper observation and situational awareness of friendly and enemy positions on the ground.⁸⁶ Although the primary role of Marine aviation was the support of amphibious forces, the Marines continued to prepare for several types of ground combat, and kept Marine aviation a vital part of their planning for each. Heavy emphasis was placed on small wars (a classification in which Vietnam would later fit), and here aviation was recognized as a key, but subordinate, element. As the *Small Wars Manual* of 1940 stated, "The primary mission of combat aviation in a small war is the direct support of the ground forces. This implies generally that all combat aviation will be used for ground attack."⁸⁷ The manual went on to delineate specific procedures for the employment of aviation in support of fluid battlefield procedures, such as the use of colored panels on the ground to mark

the location of friendly troops, as well as the direction and distance to the enemy.⁸⁸

Although great progress was made by the start of World War II, serious obstacles remained in the employment of aircraft in close air support, such as a lack of communication between aircrews and ground troops. Although Marine aviators provided critical support for ground operations on Guadalcanal, Pelelieu, and Okinawa, in many famous Pacific battles Marine aviation was only able to provide limited support. In the assaults on Tarawa, the Marianas, and Iwo Jima, the landings took place at extended distances from ground bases, and most close air support came from navy squadrons embarked on aircraft carriers. Only late in the war were Marine Air Groups embarked on carriers dedicated to the close air support of amphibious forces. The vast majority of Marine aviation was left to secure rear areas, or supported the more gradual Southwest Pacific advance under General Douglas MacArthur. In this advance, the Army reaped the greatest benefits from Marine aviation's focus on supporting ground operations. In Army operations in the Philippines, the soldiers were followed closely by Marine Air Groups, and were provided with first rate communication and support. In many ways the Philippines advance was the most complete realization of the Marine Corps' vision for close air support, even though ironically no infantry Marines were involved.

The Marine Corps continued to refine its CAS capabilities by applying lessons learned in World War II. In the unification debates of the late 1940s, the Marine Corps jealously guarded its air arm from those who would have preferred to concentrate all Marine and navy air assets under the newly formed U.S. Air Force. By the start of the Korean War, the Marines were equipped with better communications, and the air-ground team was well rehearsed despite force and spending reductions. Fortunately, the Marine Corps pre-



Deck crew loading rockets on the wings of F4U-4 Corsairs aboard the carrier Badoeng Strait off Korea in September 1950. Although a holdover from World War II, the relatively low-speed, long-endurance, and durable Corsair proved to be an indispensable CAS aircraft, most notably in the early stages of the war. Corsairs provided critical support for the defense of the Pusan Perimeter and in the extremely dense weather that complicated operations in the Chosin Reservoir.

served the ability to operate off of the small “jeep” carriers that it had acquired toward the end of World War II. This proved critical when the First Marine Brigade was formed in response to the Korean crisis in the summer of 1950. Marine aircraft flying from the carriers provided CAS to the Marines stabilizing the Pusan Perimeter, and were critical to the success of that effort. Marine CAS was also critical in the Inchon landings and the campaign that followed. Army officers were envious of the support Marine infantrymen were receiving and began to argue that unified command of air and ground forces on the Marine model was the only way to realize the potential of air power for ground combat.⁸⁹ As a result of its early performance, the Marine air-ground team also earned public acclaim for its performance, which contrasted sharply with an Air Force facing criticism for neglecting its ground support responsibilities.⁹⁰ Unfortunately for the Marines, the air-ground team became disjointed as major combat forces were introduced into the theatre. The 1st Marine Division was made subordinate to the 8th Army, and its supporting air unit, the 1st Marine Air Wing, was absorbed by the 11th Air Force. Although an agreement was

made that Marine aircraft would be used to support Marine forces whenever possible, this command arrangement interfered with the unity of command and close liaison that made the Marine air-ground team so effective.

When the United States began its active involvement in Vietnam, the Marine Corps had a working definition of CAS almost identical to that accepted as the joint definition today. Since at least 1955, Marine doctrinal publications had defined CAS as “the attack of hostile ground or naval targets which are so close to friendly forces as to require detailed integration of each air mission with the fire and movement of those forces and with supporting forces.”⁹¹ It can be seen, therefore, that in the 1960s the Marine Corps was focusing on the integration of close air support as a combined arms tactic in dynamic battlefield conditions. This definition further implied a subordination of air power to the ground operations if not by wording, then certainly by the permanency of ground forces relative to air units in the battle area. In other words, ground units defined air and ground maneuvers because they were the ones who remained in the battle area to hold

contested terrain longer than the hour or so an aircraft might be on station to support them. The Marines adapted this philosophy over time, giving air power a greater role than acting merely as a substitute for artillery. As Marine units gained experience in search and destroy operations, for example, they learned how to use FAC(A)s as virtual blocking forces, able to monitor large sections of the battle area and call in CAS to stop the enemy from fleeing sweeps on the ground.⁹²

There is much more to making an organization's doctrine a reality than merely publishing it in official manuals. One of the reasons Marines were able to maintain such a close connection between their air and ground arms is that the men who made up these different branches were all products of the same training—in short, as Marines they all shared a common ethos enabled only by common experiences. For the officers who led Marine units on the ground and in the air, the common background they shared was The Basic School. From the beginning of the 20th century, the Marine Corps had sought to increase the professionalism of its officers with common professional schools that all attended, regardless of their military specialty. Some of these schools in Quantico, Virginia, like the Senior Course for colonels and lieutenant colonels, and the Junior Course for majors and captains, served to bring officers together after they had the benefit of operational experience to reconnect the communities in their common culture. These schools were not unique, since they were paralleled by those of other services, like the Naval War College and the Army's War College. What made the Marine Corps unique, however, was that it had an entry-level school for commissioned officers in Quantico, known as The Basic School. The name was self-explanatory, accurately describing its function of ensuring that all newly commissioned second lieutenants, regardless of military specialty or commissioning source, all received a common instructional course of approximately six months

duration in the basics of Marine Corps leadership and combat techniques. This course was heavily weighted in favor of infantry fundamentals and ensured that Marine aviators truly understood the Marine doctrine that defined air power as a supporting element for ground combat. They understood the problems faced by the infantry officers because they experienced these challenges first hand and learned to appreciate the nature of ground combat. Just as important, The Basic School ensured that air and ground officers shared a common ethos and it laid the foundation of teamwork which ultimately paid high dividends on the battlefield. As one senior Marine aviator put it, "the Marine Corps attempts to initiate the bulk of its officer personnel into service with a common background of training, friendship and mutual purpose. This tends to bond together air and ground organizations into an extremely close-knit striking force with reciprocal confidence of all elements, each with the other."⁹³

There were occasions when the Marine Corps could not always meet the ideal of sending all its officers to The Basic School immediately upon commissioning. Exceptions were made in emergency situations, usually in time of time of war, when aviators were in especially high demand, or when enlisted Marines were awarded battlefield commissions. Once the crisis of meeting battlefield needs was over, however, as many of these officers as possible were sent back to The Basic School.⁹⁴ During these crisis periods, the peacetime policy of sending all officers to The Basic School still paid high dividends by creating a common culture of air-ground teamwork in the Corps, and a core of aviators who were committed to ground support.

The most critical link in the Marine air-ground team was the Forward Air Controller. A FAC not only had to be an aviator, but also one who had operational experience that often provided an informed expertise on CAS. All FACs were required



Lieutenant Philbrook S. Cushing, the Air Officer for Battalion Landing Team 2/9, talks over a PRC-10 radio during a peacetime operation on Taiwan in 1964. The assignment of aviation officers to serve as Forward Air Controllers in ground combat units provided a vital link, maximizing the effectiveness of Marine aviation in support of ground forces.

to attend a five-week course in order to further prepare them for their duties,⁹⁵ after which they were assigned to a Marine ground unit for a limited duration, typically six months to a year long. Marine doctrine dictated that three FAC's be assigned to each infantry battalion: one to serve as the Air Liaison Officer, responsible for coordinating air support in the battalion Fire Support Coordination Center, and two to serve as FAC's with the infantry companies operating in the field. While supporting ground combat units, these FAC's were equipped with radios capable of communicating with aircraft. A FAC was responsible for understanding the ground scheme of maneuver, advising the ground commander on how aircraft could be used to support his plan, requesting air support, and directing CAS attacks.

In this last role the FAC provided terminal control to CAS aircraft. There were several responsibilities as part of terminal control. First, the FAC had to help the attack pilot find the target he was to hit. Since many targets were well camouflaged and difficult to see from the air, this was usually accomplished through the use of a mark. The FAC arranged for a white phosphorus smoke round to be fired by mortars or artillery at the target, which created a large white smoke plume to use as a reference point when directing the pilot where to drop his bombs. The second and most critical responsibility of terminal control was to make sure that not only were the bombs being delivered on target, but also that they would not endanger friendly forces. In order to do this, the FAC would not issue a "cleared hot" (approval to drop ordnance) until the attack aircraft was ob-

Marines watch as an A-4 Skyhawk attacks a Viet Cong position that had been blocking their advance in Quang Ngai province in February 1967. A Forward Air Controller has coordinated the attack, and the white smoke billowing in the tree line is most likely the "mark," an artillery or mortar smoke round fired near the target to help the pilot find what the FAC needs him to hit. This picture also demonstrates that Marine aviators often made low-altitude bombing attacks to improve their accuracy because their training had given them a good appreciation of the needs of the infantry Marines they were supporting.





Brigadier General Frederick J. Karch, commander of the 9th Marine Expeditionary Brigade, welcomes Lieutenant Colonel William C. McGraw Jr., Commanding Officer of Marine Fighter Attack Squadron-531, to Da Nang in April 1965. The 9th MEB became the first U.S. ground combat force deployed to Vietnam when it landed on 8 March with the mission of protecting the airfield at Da Nang, which was swelling with the introduction U.S. aviation forces for Operation Rolling Thunder. Although Marine helicopters had already been operating from the base in support of the MEB and ARVN, the arrival of the first Marine fixed-wing squadron just a month after the MEB landed reflected the importance of Marine CAS assets to the air-ground team. General Westmoreland had requested the multi-role Phantom II jets to use as part of the larger air campaign and wanted to place them under the operation control of the Air Force, but he was overruled by CinCPac, Admiral U.S. Grant Sharp Jr.

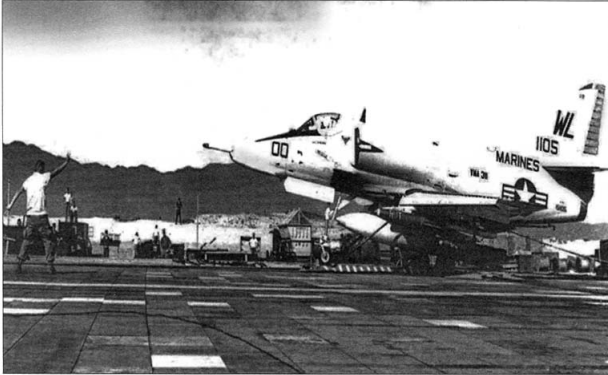
served to be in a level dive pointed at the target which would not endanger friendly forces. The FAC, therefore, was the primary means of ensuring that close air support would effectively support the ground commander without the danger of fratricide.

The Marine Air-Ground Team in Vietnam

Marine aviation was an integral part of the Marine Corps presence in Vietnam from the start. In fact, Marine helicopters supported South Vietnamese ground forces long before the arrival of

ground combat units. These squadrons were operating out of Da Nang alongside Air Force units, and the need to protect the base was actually the justification for President Lyndon B. Johnson's March 1965 introduction of ground combat forces in the ICTZ. As the ground presence grew and became the focal effort, the Marine Corps was careful to increase the size of its corresponding air units to ensure adequate support was maintained. The Marines had developed the capability to rapidly construct expeditionary airfields with aluminum matting, catapults, and arresting gear to ensure that Marine air units would be able to phase ashore quickly on a large scale and support ground operations after an amphibious landing.⁹⁶ As suitable airfield space ran out in 1965, the Marines validated the concept with the construction of such an expeditionary short airfield for tactical support (SATS) at Chu Lai. This SATS was operational just 45 days after the order to begin construction began, providing an airfield where only a sandy beach existed beforehand. Although these expeditionary fields were only designed to last for relatively brief periods, the Chu Lai SATS remained operational until the Marines left the base during their planned withdrawal in late 1970.⁹⁷

By the 1968 battle of Khe Sanh, the Marine aviation presence in Vietnam (shown in Annex B) was considerable. The premier Marine CAS aircraft was the A-4 Skyhawk. Like the Air Force, the Marine Corps had discarded the AD Skyraider after the Korean War because many were lost to anti-aircraft fire in the last year of the war. Unlike the Air Force, however, the Marine Corps made sure that it developed a suitable CAS aircraft to replace the Skyraider. The result was the joint Marine-Navy program begun in 1952 to develop the A-4 as a purpose-built CAS and light attack aircraft. The Douglas aircraft company's engineers designed the plane literally from the ground up, consulting not only pilots on what improvements they wanted to see, but also FACs and ground



An A-4 Skyhawk about to take off from the expeditionary short airfield for tactical support (SATS) at Chu Lai. When it became apparent that another forward operating base was needed for the aircraft supporting the Marines in the ICTZ, this airfield was built on a sandy coastal strip in less than one month's time. The project was a feat of determination and engineering that validated the expeditionary airfield concept that the Marine Corps had developed to keep its air power accessible to its ground combat forces. Assembled from aluminum matting and less than 4,000 feet long when it became operational on 1 June 1965, even the nimble A-4 required arresting gear to land and a jet assisted takeoff (JATO) system to get safely airborne. Capabilities were improved with the addition of a catapult system, launching its first aircraft, above, on 11 May 1966.

officers.⁹⁸ The decision to replace the heavily-armed, long endurance, and accurate propeller driven CAS aircraft with a jet was controversial. Although the Skyhawk was criticized for carrying fewer bombs than the A-1, and it required longer operating fields, its speed conveyed advantages in responsiveness and survivability. Ultimately, the Marine Corps had to go with the more survivable design because it needed to be ready for any limited war to expand, requiring CAS in the presence of top Soviet and Chinese anti-aircraft systems.⁹⁹ The small, swift, and maneuverable Skyhawk promised great increases in survivability, as well as an ability for more rapid follow-on attacks on CAS targets.¹⁰⁰ Marine Corps, Air Force, and Navy testimonials from the time of the battle of Khe Sanh (detailed later in this work) show that the

Skyhawk was indeed an excellent CAS aircraft, uniformly describing the A-4 as the preferred aircraft for destroying targets which required precision attacks.

The Marine Corps continued to improve its CAS aircraft as it began its involvement in Vietnam. By 1961, the A-4 had been modified to carry a wider range of ordnance, and had been equipped with instruments which allowed it to navigate to and from target areas at night and in poor weather conditions, even though the actually bombing required visual contact with the target. To ensure that night and poor weather did not deny ground troops the air support they needed, the Marines also participated in another joint project with the Navy: the A-6 Intruder. Although primarily designed around the Navy's need for a heavy tactical attack aircraft, the Intruder was able to provide all-weather support to the Marines from advanced bases by means of a sophisticated radar-beacon targeting system. As long as a FAC on the ground had a radar reflector or beacon, he could get an

An A-6A Intruder from Marine All-Weather Attack Squadron-242 demonstrates its ability to deliver a devastating payload of 500-pound bombs near Chu Lai in July 1967. The Intruder provided the Marine Corps not only with a heavy tactical attack aircraft, but also one that could be counted on for support in poor weather and hours of darkness.



A-6 to drop bombs on the enemy in any weather, day or night, merely by providing the target coordinates to the aircrew.¹⁰¹ The A-6 was backed up by another all-weather bombing guidance system, the TPQ-10. This ground based radar (discussed in much greater detail later on) could track and direct any aircraft to drop its bombs on a target the aircrew could not see. Developed from the MPQ-14 system the Marines had used successfully in Korea, the TPQ-10 was in operation from the first days of the 1st Marine Air Wing's arrival in Vietnam, and was the only ground-based radar bombing system in the country for over a year.¹⁰²

Some of the Marine policies designed to foster ideal close air-ground cooperation did not survive the stresses of war. As the U.S. commitment in Vietnam increased, ultimately about half of Marine air units were deployed overseas, and all but a few squadrons of these were in Vietnam.¹⁰³ The demand for trained aviators became so great that

The landing gear begins retracting as an F-4B Phantom II of Marine Fighter Attack Squadron-115 takes off from Da Nang in May 1967. The Phantom was a tri-service aircraft, and although Air Force and Navy design requirements prevented it from being an optimal Marine Corps CAS platform, it could carry a large load of bombs and had a fast response time when launched from an alert "hot pad." The Marine Corps was able to achieve superior results from its Phantoms by loading them with "snake-eye" high-drag bombs (shown) and training its pilots to deliver them from low altitudes under the control of Forward Air Controllers.



the Marine Corps began to make exceptions to the policy of sending all of its aviators to The Basic School, and it still had trouble filling its combat squadrons with highly trained pilots. Many officers were commissioned, sent immediately to flight training, then given only four months in training in the United States to learn the aircraft they would fly in combat, before they were assigned to a combat squadron in Vietnam.¹⁰⁴ In such circumstances, the Marine Corps was further forced to reduce the number of FAC's assigned to each battalion to just two: one to serve as the ALO in the FSCC, and one to control aircraft attacks for maneuver companies.¹⁰⁵

The pilot shortage created by the war affected the pool of FACs in another way. Since Marine Corps policy was that each Marine would serve a 13-month combat tour in Vietnam before being rotated to a noncombat unit, the Corps was unable to draw upon its pool of combat experienced pilots for FAC duty if it waited until their year in Vietnam was over. As a result, the decision was made to pull the needed pilots from the pool of those already flying in Vietnam once they had completed the first half of their tour. The result was system similar to that under which Air Force FACs served, spending five or six months flying, then the last five or six months (and sometimes as little as three months)¹⁰⁶ of their combat tour as FACs. The new policy for assignment to FAC duty also affected the training of FACs, since the Marine Corps could not afford to send these pilots through the standard five-week FAC training course when they only had 13 months in Vietnam to begin with. By 1967, these officers were sent to shortened courses in the U.S.,¹⁰⁷ or sometimes just a two-day course in Da Nang, which focused only on the most basic duties of FACs, and a familiarization with fixed-wing and helicopter CAS procedures for the aviators who flew the opposite type aircraft.¹⁰⁸ Apparently Marine leaders felt that five or six months' experience delivering CAS support in Vietnam was enough to prepare these officers to coordinate and control such attacks.

Reducing the number of FACs assigned to infantry battalions also allowed the Marines to employ more FAC(A)s. As experience was gained in Vietnam, the Marines realized that the heavy vegetation, steep terrain, and elusive nature of the enemy meant that FAC's on the ground with the infantry had limited success in sighting targets far enough away from friendlies to be safely attacked by aircraft. To compensate for this, the Marine Corps created more airborne FACs.¹⁰⁹ The Forward Air Controller (Airborne), or FAC(A), was not a new concept in Vietnam. In World War II, aviators and artillery spotters had gone up in small observation aircraft like the OY Sentinel, which was similar in general appearance to a modern Piper Cub or Cessna 172. These slow-moving aircraft were able to obtain a different perspective of operations on the ground to help the infantry units build their picture of the battlefield, and to coordinate attacks on targets beyond their sight which were nonetheless important to their operational objectives. The capability was maintained in the Korean War, and proved especially critical in the early phases of the conflict.¹¹⁰ Unlike the Air Force, the Marine Corps maintained this capability between wars and was ready to provide FAC(A) coverage of its forces from the start of its involvement in Vietnam. There, the use of FAC(A)s was increased at the expense of reducing the number of ground FACs because they were often able to observe the enemy and control attacks more effectively. The Marine Corps was very specific, however, in stating that FAC(A)s existed as extensions of the ground tactical air control parties, not to hunt independently.¹¹¹

For FAC(A) operations, the Marine Corps continued to operate relatively low-performance aircraft like the O-1 Bird Dog. Although the Marines were using the same aircraft for the mission as the Air Force, it was not because they shared a similar neglect of the air observation mission. In fact, in the Korean War the Marines expanded their observation and control capabilities with the Kaman OH-43D helicopter designed for reconnaissance,



An OY-1 Sentinel, commonly called a "Grasshopper" after the Army aircraft of the same design and mission, flies over Naha on an artillery air spotting mission during the Okinawa campaign in 1945. The Marine Corps had eight Marine Observation Squadrons by the last year of the war and recognized the continued value of such aircraft for supporting ground operations through the Korean War and into Vietnam.

and artillery and naval gunfire spotting.¹¹² As the new UH-1 Huey was fielded to replace the OH-43 and O-1 in Vietnam, the Marine Corps continued to recognize the value of a fixed-wing propeller driven aircraft capable of operating from forward airstrips, and began development of the OV-10,¹¹³ which did not see combat deployment until July 1968. The O-1s were retired on the expectation that the new fleet of Huey helicopters, which were more versatile and able to operate without runways at all, could meet the Marines' needs in the meantime. Unfortunately, the enormous increase in U.S. military commitment in Vietnam in 1965 upset this plan when the Hueys were found to be indispensable in escorting heliborne troop movements, and the majority was converted to armed gunships. As a result, the Marines had to recall the O-1's to service to assist the multitasked UH-1 community.¹¹⁴ At the time of Khe Sanh, the Marines were supported by 14 O-1s conveniently operating out of Quang Tri Airfield, assisted by the 50 UH-1s of VMO-2 and VMO-6 (see Appendix B).



An O-1 Bird Dog flies low over a column of Marines advancing on a sweep and destroy mission south of Hue in February 1967, displaying its ability to get “down in the weeds.” O-1 crews were able to gain a solid awareness of the needs of the units they were supporting and used their mobility and vantage to provide reconnaissance and artillery spotting services, as well as air control of high-performance attack aircraft.

The Marines made sure both seats of these two-seat aircraft were put to use, since an additional crew member could dramatically increase FAC(A) capabilities. The first crew member was the pilot. The community was led by senior aviators like Lieutenant Colonel Wayne C. Andersen, a pilot who had flown O-1s in Vietnam before the 1965 buildup, and who was retrained on the Bird Dog specifically to return to Vietnam and command the O-1 detachment at Quang Tri.¹¹⁵ To meet the needs of the expanding war, however, most O-1 pilots were drawn from the ranks of A-4 and F-4 squadrons. These men had completed half of their tours in Vietnam, just as was done in the Air Force. In the Marine Corps, however, this assignment was a highly sought-after opportunity, and was considered the best of a series of alternatives, including service as a ground FAC, or even a desk job on the wing staff.¹¹⁶ Considering their solid base of experience as CAS pilots in combat, these O-1 pilots were given several flights to qualify them to fly the aircraft itself, then six more

flights to qualify each one as a FAC(A). Despite the extremely complicated duties of a FAC(A) and the Marine Corps' commitment to proper air-ground coordination, the Corps considered this simple transition program sufficient because the pilot was part of a two-man team, and it has been argued that he was in fact the least important of the two members. His counterpart was an Aerial Observer (AO), an infantry or artillery officer who brought just as much experience and expertise in ground tactics to the crew as the pilot brought expertise in aviation matters. The result was “the ability to coordinate air and artillery assets in devastating combination.”¹¹⁷ Ideally, AOs were trained at a three-month school in Quantico, Virginia, before deploying overseas, but just as with FAC assignments, this policy became infeasible in the face of the rapidly growing demands of the expanding war. As a result, most AOs were assigned to fly O-1s only after finishing the first six months of their combat tours in Vietnam with infantry and artillery units. Many of these men had

enlisted experience in such units before being commissioned, so that they brought even more expertise to the cockpit than the average officer, and all were trained at a short school established at the division level in Vietnam.¹¹⁸ These AOs were not assigned to the O-1 squadron, but were instead kept in the Aerial Observation Unit established in the Artillery Regiment, or as part of the division headquarters' intelligence section. The ground units assigned the O-1 crew its daily mission, which was flown over the territory it controlled. This arrangement had several benefits. First, the AO had a detailed knowledge of the terrain he was flying over because he had spent the first half of his combat tour walking and fighting over that same ground.¹¹⁹ Next, his contact with the ground units supported brought a knowledge of both their current operations and key leaders, which enhanced the ability of the O-1 crew to support them. Finally, after each mission the AO was in much better contact with the ground units supported to facilitate the exchange of information based on airborne observations.

During each mission, the O-1 pilot was responsible for flying the aircraft, as well as for shooting rockets to mark targets for aircraft, and for providing terminal control. The AOs used different radios than the pilots, and were responsible for all coordination with ground units engaged with the enemy, including artillery support. Bringing crew

An O-1, seen from the perspective of an attack aircraft, conducting bomb damage assessment of a target after an air strike.



A TF-9J Cougar from Marine Aircraft Group-11 taxis for takeoff from Da Nang on the aircraft's last combat sortie in Vietnam. The two-seat version of the Cougar, originally developed by the Navy for training, was used for Strike Coordination and Reconnaissance (SCAR) north of the DMZ, where enemy defenses proved too dangerous for the O-1. Known as a Tactical Air Controllers (Airborne), or TAC(A)s, these aircraft also served as FAC(A)s when controlling attacks in support of ground forces. In 1967, the TF-9J was replaced in the TAC(A) role by the two-seat TA-4F Skyhawk, pictured on the left.

members with such great expertise in air and ground operations together in an aircraft which offered such good observation, the Marine Corps established an unparalleled capability for coordinating air support of ground units.¹²⁰ Compared to the single-crewed Air Force O-1s, the capability of this truly optimized dual-crewed aircraft is dramatic.

At the time of the 1968 battle of Khe Sanh, O-1 FAC(A)s were augmented by two other sources: helicopters and jets. The O-1s had been brought back into service to alleviate the UH-1Es of the heavy burden of providing both FAC(A) and helicopter gunship support, but the UH-1E squadrons still maintained a FAC(A) capability which was exercised regularly. Most often, UH-1 FAC(A) missions were flown with two pilots, although AOs sometimes joined the helicopter crews.¹²¹ As O-1 FAC(A)s had begun roaming further north away from ground forces, they were also successful in locating ground targets in interdiction operations which had no immediate impact on the operations of ground units. Operating north of the

DMZ, they often were faced with higher concentrations of antiaircraft guns and even surface-to-air missiles. More survivable aircraft were needed to direct attack aircraft in this environment. Initially, the two-seat TF-9J Cougar jet was brought in for this purpose, which was replaced by the TA-4F in late 1967. As can be seen in Appendix B, both types of aircraft were still being flown out of Chu Lai during the siege of Khe Sanh. These high-performance air controllers designed to fight the interdiction battle were known as Tactical Air Controllers (Airborne), or TAC(A)s.¹²² They flew missions in the "route package" areas north of the DMZ, where they would search for and locate enemy targets, then call in other attack aircraft to destroy them. Although this Deep Air Support mission was much closer to the Air Force concept of applying air power, Marine TAC(A)s were also trained to work in close proximity to ground forces, and often did so. Both FAC(A)s and TAC(A)s were used at Khe Sanh to control close air support.

Summary

The performance of the two services to provide close air support of ground forces in Vietnam is perhaps best summed up by a special congressional subcommittee formed to look into the matter in 1965:

While we honor the Air Force for its accomplishments in the strategic field, in the field of air superiority, in its interceptor capabilities, and in its improved tactical airlift capabilities, we feel that in its magnificent accomplishments in the wild blue yonder it has tended to ignore the foot soldiers in the dirty brown under. They need and are entitled to better support than they have received...

The Navy/Marine Corps doctrine, organization, and the equipment employed in close tactical air support of ground forces are ob-

viously superior to that of the other armed services. They meet the requirements for limited war operations, such as the current conflict in South Vietnam, and are readily adaptable to an escalating conflict....

In substance, the Navy and Marine Corps have devoted primary emphasis to the development of close tactical air-support operations for ground units and are properly organized, trained, and equipped to carry out this important function.

The knowledge, the technique, the capability for effective close air support exists. It could well be emulated by the Army-Air Force team."¹²³

By the time the battle of Khe Sanh was joined in 1968, then, the Marine air-ground team had been tested and proven in Vietnam, where close air support was a basic and essential part of Marine tactics in fighting the VC and NVA. Although some of the Marines' policies designed to ensure close coordination had to be compromised by wartime exigencies, the foundation laid in peacetime held firm, and the culture of air-ground cooperation was intact. In 1968, Lieutenant General Victor H. Krulak, commanding all Marine forces in the Pacific theater, declared that for a Marine commander, "air support is as inseparable to the combat team as is his artillery, his tanks, or even his infantryman's M16."¹²⁴ Another Marine added, "the Marines down to the so-called lowly rifleman are very much attuned to this integral close air support and ... they expect it, they don't just anticipate it."¹²⁵ This was because the Marine Corps had an institutional commitment to high-quality close air support.

The Air Force lacked such a focus entering into the Vietnam War. While the Marine Corps enjoyed unity of command and a common culture stressing the use of air power to support ground operations, the Air Force's establishment

as a separate service led to a heavy concentration on strategic missions at the expense of tactical support for ground forces. Inter-service disputes about the proper use of air power between the Army and the Air Force, and the Air Force's unanticipated demands in Vietnam heightened its interest in expanding its close air support ca-

pability, but this effort was a reluctant one. In execution it was further plagued by disunity of command, diverging interests, and lack of communication between air and ground forces. In combat it could not overcome the long-term neglect of such a complicated and essential mission.

KHE SANH BACKGROUND

During the early years of U.S. escalation in Vietnam, Khe Sanh was a remote village located in the northwest corner of the Quang Tri Province of the Republic of Vietnam. As such, it was within the northernmost of South Vietnam's four military areas of responsibility, the I Corps Tactical Zone (ICTZ, or I Corps), located along the Demilitarized Zone (DMZ). After 1965 the U.S. forces in this area fell under the command of the III Marine Expeditionary Force (III MAF). Khe Sanh itself was a village of several thousand Vietnamese clustered in nine hamlets which made up the capital of the Huong Hoa district, a local administrative division of approximately 600 square miles. This mountainous rain-forest district's populace was divided into two groups. Less than half of them were ethnic Vietnamese from the coastal lowlands who had emigrated to the mountain region over several centuries. In contrast with the concrete and wood structures which made up their residences were those of the original inhabitants, the Bru tribesmen. These people, lumped under the broader classification of Montagnards, or "mountain people" by the French colonists, lived a separate existence. The majority of the 12,000 Bru living in the area had been relocated to a half dozen hamlets of grass-roofed huts on bamboo stilts on the periphery of Khe Sanh village. The Bru were despised by the Vietnamese, but it was hoped that the relocation would prevent the Communists from turning them against the

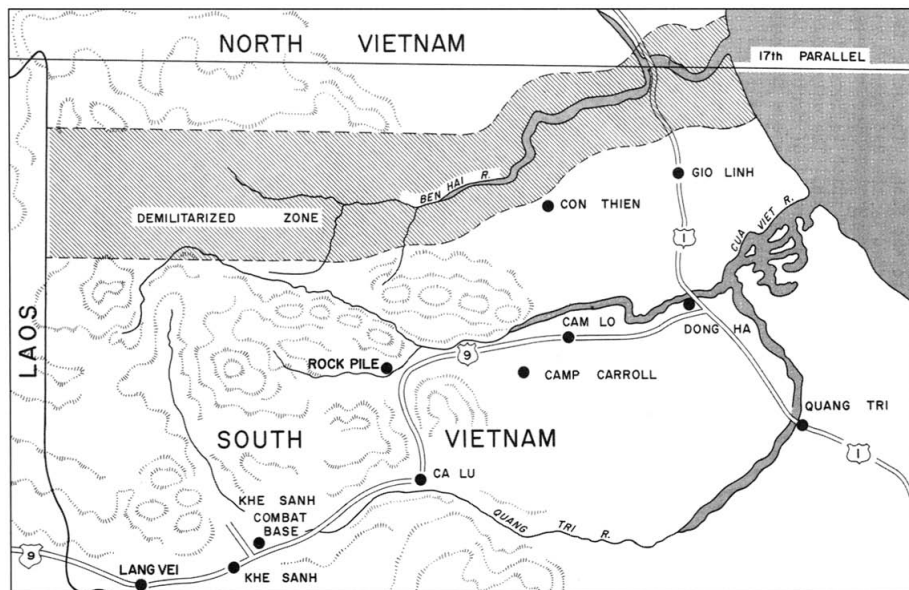
Figure 1. Key locations in Northern Quang Tri Province, in the Northern I Corps Tactical Zone. Illustration by E.L. Wilson for Captain Moyers S. Shore II, The Battle for Khe Sanh (Washington, 1969), 7.



One of the many Bru hamlets that sat on the edge of Khe Sanh village.

South Vietnamese government. Scattered among the Vietnamese and Bru population in the late 1960s were also a small number of Caucasian Christian missionaries and a few French coffee planters who had maintained their plantations in the fertile mountain soil around Khe Sanh after French colonial rule ended in 1954.¹²⁶

The main village of Khe Sanh itself sat astride Route Coloniale Number 9, the single-lane dirt track that the French had built from the coastline at Dong Ha westward through the increasingly mountainous terrain into Laos, terminating at Savannakhet. The road was little more than a wide





A convoy of trucks heads west on the tortuous Route 9 toward Khe Sanh on 28 March 1967. The road had been closed to traffic for several years by a combination of poor development and the constant threat of enemy activity, as it would be again after just four months. This left the forces at Khe Sanh completely dependent on the airfield for supply, reinforcement, and casualty evacuation.

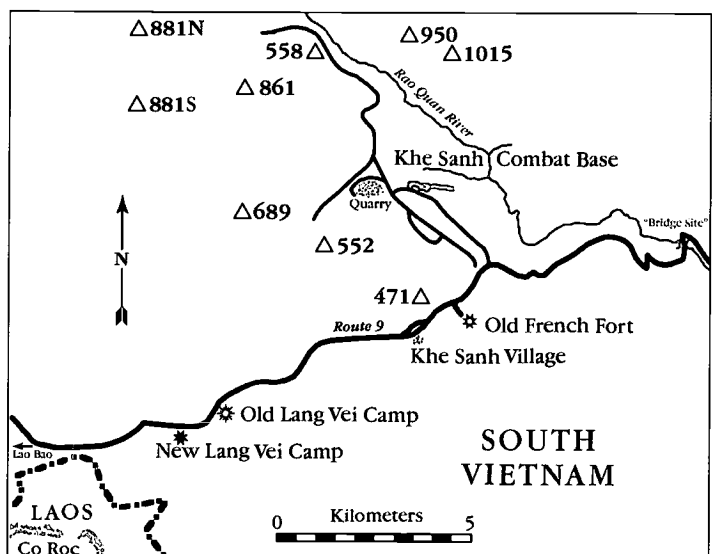
path through the jungle, running 63 kilometers from Dong Ha on the coast to Khe Sanh, across 36 aging bridges, most of which had been built by the French and were not safe to traverse by the 1960s.¹²⁷ Even after considerable development by the U.S. military to support operations at Khe Sanh, Route 9 was only one lane wide. The only way it could support two-way traffic was by a scheme under which every 12 hours the one-way flow alternated between westward traffic inland and eastbound traffic seaward.

The region itself protruded westward into Laos so that Khe Sanh was essentially surrounded by enemy territory on three sides. Twenty-two kilometers to the north was the DMZ, separating the Communist Democratic Republic of Vietnam (DRV) from the Republic of Vietnam (RVN). The border with Laos crept southward from the DMZ approximately 16 kilometers to

the west of Khe Sanh, then wound back toward the coast, passing just seven kilometers to the southwest of the village. Just on the other side of that border was the Ho Chi Minh Trail, a veritable highway that served as the main supply route for NVA and VC forces in South Vietnam. The trail was so close that veterans of Khe Sanh reported being able to see fires burning along the path at night. As early as 1961, the NVA took advantage of Khe Sanh's remote location to harass the small ARVN forces there.¹²⁸ The highlands around the village truly represented the "wild west" of Vietnam, where the law was defined only by the strongest force in the region willing to make its influence known at any given time.

The first U.S. military presence around Khe Sanh began in August 1962, when MACV sent a Special Forces team to lead a Civilian Irregular Defense Group (CIDG), a local militia force formed from the Bru tribesmen, to stabilize the region. For more than two years, the Special Forces and Bru CIDG occupied an old, abandoned French fortification two kilometers east of Khe Sanh village along Route 9, which appropriately became

Figure 2. Khe Sanh and key locations in the immediate vicinity. Based on map in Prados and Stubbe, Valley of Decision, facing p.1.



known as "Old French Fort." In November 1964, an increase of enemy activity in the region inspired the Green Berets to seek a more defensible position closer to logistic support, so they moved about three kilometers north of Khe Sanh village to an airfield built on a plateau by French colonial forces in 1949.¹²⁹ The airfield was particularly important because Route 9 could not be relied upon for logistical support, and was threatened, if not closed, by NVA activity for much of the 1960s. This location later became the focal point of the 1967 and 1968 battles for Khe Sanh, as it was the site upon which Khe Sanh Combat Base would be built.

As the United States became fully committed to fighting the war, its interest in Khe Sanh increased correspondingly. Early in the war, military efforts like the Special Forces unit had enjoyed some success in pacification, especially among the Bru, who as mountain tribesmen were a distinct cultural element from the Vietnamese. The proximity of Khe Sanh to Laos, however, made it a place of increasing military significance with the adoption of "big unit war" by the NVA in late 1964. As the volume of traffic along the Ho Chi Minh Trail supporting guerrilla operations in South Vietnam increased, the Commander of U.S. Military Assistance Command, Vietnam (COMUSMACV), General William Westmoreland, sought to use the area both to monitor NVA movements southward and as an advance warning post for attacks eastward into the I Corps area. The dirt airstrip was developed into a combat base which included a short aluminum matting runway adjacent to a security compound, and came to be known as the Khe Sanh Combat Base (KSCB). By the end of 1965, the compound consisted of a single perimeter of wire containing 17 buildings and a number of bunkers alongside the 3,300-foot runway. From this base, Special Forces teams regularly patrolled the surrounding area, including Laos. At various times the airstrip was used by the Special Forces, CIA, a MACV Special Operations Group, Marines

of signals intelligence units and the 3d Reconnaissance Battalion, and even a U.S. Air Force light air reconnaissance detachment.¹³⁰

In November and December 1965, after one year of the "big unit war," the special operations radiating from Khe Sanh apparently created enough of a thorn in the side of the NVA movements through Laos that the Communists decided to take action against the combat base. Human intelligence gathered by Special Forces personnel confirmed that approximately two regiments of NVA were moving into the area with the intent of conducting operations there, and that the NVA were not merely passing through. Limited attacks on the U.S. and allied forces operating around Khe Sanh soon followed.¹³¹ At this point, General Westmoreland resolved to reinforce the base as a key outpost both for monitoring the operations of the NVA and as an obstacle to any NVA attacks eastward into the coastal plain of the ICTZ. Westmoreland also saw the Khe Sanh Combat Base as a stepping-stone for future large-scale operations into Laos against the NVA.¹³² Westmoreland's decision to hold Khe Sanh put him at odds with the Marine in charge of the ICTZ, the Commanding General of III MAF, Lieutenant General Lew Walt.

General Lewis W. Walt shared the belief of most senior Marine leaders, including Commandant of the Marine Corps General Wallace M. Greene Jr., that III MAF should concentrate its forces in the coastal plain, winning the loyalty of the local population in the Combined Action Platoons (CAP) program,¹³³ a relatively insightful strategy that was enjoying some success. To General Walt, the diversion of combat resources to a remote mountain outpost of no political importance depleted his ability to accomplish his primary mission of pacifying the ICTZ. This became an especially sensitive issue in the spring of 1966 when the NVA presence in the coastal region was increasing. In April, Westmoreland ordered III MAF to send a battalion to Khe Sanh to search for and de-

stroy the NVA forces he suspected were massing there. By 1 May, the Marines had found no indications of a significant NVA presence in the region, so the operation was cut short. Over the course of summer 1966, the Marines concentrated on eliminating an NVA division which had moved into the lowlands, and regular contact in Operations Hastings and Prairie succeeded in driving the enemy from the region.¹³⁴

Walt's success in the lowlands in the summer of 1966 seemed to validate his strategic approach, which would have left only a simple observation post at Khe Sanh merely to provide warning of an NVA attack into the ICTZ, at which time he could withdraw his forces to defend the coastal plain by establishing a line of defense in the foothills. Westmoreland, however, kept his attention focused on Khe Sanh, which he continued to envision as an intelligence gathering base and potential springboard for operations against the NVA sanctuary in Laos. The strategic tension between Westmoreland and Walt would lead to problems later on, but ultimately COMUSMACV would get his way as the senior officer.

Human intelligence and smaller-scale patrols continued to indicate that a growing NVA presence in the area was menacing Khe Sanh, and in September 1966, Westmoreland ordered the Marines to reinforce the combat base, explaining that "every enemy soldier diverted to Khe Sanh is one less to threaten the population."¹³⁵ Seabees improved the fortifications in the compound, with the perimeter extended to encompass the runway, and the runway surface itself was improved. When increased enemy activity was detected on an east-west trail network near the combat base, Westmoreland ordered Walt to send a battalion to protect the growing base,¹³⁶ apparently with the recent destruction of the A Shau Special Forces camp fresh in his mind.¹³⁷ First Battalion, 3d Marines (1/3) was delivered to the base to provide protection for the Special Forces and intelligence

units there. As part of Operation Prairie, 1/3 also conducted aggressive patrols around the base for more than four months. Without a joint commander to coordinate the activity of the various units at Khe Sanh, the Marines collided with the patrols of the various other "friendly" agencies in the area as much as they did the NVA, with whom they had relatively little contact. Some evidence of recent activity was found, but it only proved how elusive the enemy could be. Again, Marine leaders interpreted the lack of contact as an absence of any threatening NVA activity in the area.¹³⁸

As more intelligence-gathering units were deployed to Khe Sanh, they became more dispersed and harder to protect. An element of MACV's Studies and Observation Group (SOG) came to region to conduct clandestine operations against the NVA, often into Laos, with the assistance of the Bru. Known as Forward Operating Base-3 (FOB-3), these soldiers began their operations in Khe Sanh village but eventually moved their compound into an annex of KSCB. This left only a small MACV advisory group in the village itself until in February 1967, the Marines sent Combined Action Platoon "O" (CAP Oscar) to the village. With the introduction of CAP Marines, General Walt was attempting to expand the success of his pacification program in the lowlands to this new area of interest. The Special Forces CIDG which originally established the presence at the airfield, meanwhile, became the victim of interservice tensions in the buildup around Khe Sanh, and actually moved further away from the airfield in December 1966.¹³⁹ They relocated to a new compound in the village of Lang Vei, which was much closer to the Laotian border than Khe Sanh village.¹⁴⁰ By the first months of 1967, therefore, the U.S. military presence around Khe Sanh had certainly increased, but at the expense of seriously complicating the mission of the Marines sent there to protect these same forces.

It is somewhat surprising therefore, that when 1/3 was rotated out of Khe Sanh after five months in February 1967, that it was replaced by a single company. The arrival of Company B, 1st Battalion, 9th Marines was essentially simultaneous with that of CAP Oscar, further reflecting Walt's desire not to waste combat forces on the defense of Khe Sanh when a pacification effort could capture the hearts and minds of the Vietnamese, and along with it the territory they lived in. B/1/9 continued the aggressive

patrols begun by 1/3 but was unable to simultaneously provide a robust perimeter defense for a base that had once required the attentions of an entire battalion. It was fortunate for Khe Sanh, however, that the Marines made patrolling the highest priority, since a major NVA presence was growing just a short distance to the west. In April 1967, Bravo company's patrols kicked over a hornet's nest which would have had disastrous consequences for the combat base if left undisturbed.

THE HILL BATTLES OF 1967

From 25 April to 11 May 1967, major NVA and Marine forces collided in the hills west of Khe Sanh. Over the two-week period, the Marines gradually fed in larger and larger forces in response to the increasingly apparent reality that the NVA were not yielding to the Marines they had already engaged in combat. This ongoing battle later came to be known as the first battle of Khe Sanh, or the "Hill Fights." While a distinct operation from the siege that would follow a year later in the spring of 1968, the first battle of Khe Sanh is important to this study for several reasons. First, the NVA objectives in 1967 foreshadowed their goals for 1968. When the two Marine battalions thwarted their plans to seize Khe Sanh in 1967, the NVA apparently returned in greater force the following year to complete the task. Second, the Marine operations of 1967 were dynamic maneuvers to dislodge the enemy, unlike the static defense of 1968. Therefore, while setting the stage for the events of the following year, the Hill Fights also present an opportunity to examine the extent and manner in which close air support was actually integrated with the fire and movement of Marine forces. The U.S. Marine Corps operational history for 1967 claims that "the heavy fighting at Khe Sanh in late April and early May provided a classic example of integrated employment of modern, fixed-wing aviation in support of ground maneuver elements... The defeat of the enemy in this critical terrain was the product of skillful and closely coordinated air-ground action."¹⁴¹ Close examination of this battle supports this assertion, demonstrating that Marine doctrine developed for the close integration of air and ground forces was effective practice in 1967.

Prelude to the Hill Fights

Following five months of relatively unrevealing patrols around Khe Sanh, the 1st Battalion, 3d Marines was withdrawn in February 1967 and replaced with a single company. It is unclear why General Westmoreland permitted III MAF

to make this change when COMUSMACV placed such clear emphasis on the importance of Khe Sanh, but B Company of the 1st Battalion, 9th Marines was hard pressed to continue patrolling and provide security from the sprawling combat base, a task that had previously consumed the efforts of an entire battalion. Fortunately, the Marines opted to focus on aggressive patrolling instead of perimeter defense.

Approximately seven kilometers northwest of the Khe Sanh Combat Base was a group of three hills, shown in Figure 2. The three peaks form a rough triangle, with the apex pointed southeastward at Khe Sanh. The closest of the peaks, at the apex, is Hill 861. At the two farthest corners are the twin peaks 881 South and 881 North, joined by a saddle. The military significance of these hills was that they were the dominant high ground overlooking Khe Sanh and offered a sanctuary to fire rockets and mortars at the combat base. It was signs of increasing activity by the then-elusive enemy that prompted the dispatch of a routine patrol on 25 February 1967. It was ordered to investigate reports that a number of bunkers and large formations of NVA troops had been seen on Hill 861. Led by Sergeant Donald Harper, this patrol was ambushed as it approached the hill. Harper was able to contact an airborne FAC, who brought in a section of two F-4 Phantoms with 500-pound bombs. After four passes, the Phantoms had dropped four tons of ordnance on the NVA, destroying the ambushing force.¹⁴² Several days later, on 2 March, the combat base sustained a heavy attack by indirect fire. The fact that the NVA were willing to try and stop patrols from investigating the hills west of Khe Sanh, and had actually fired upon the base itself, was ominous. It gave Marine commanders reluctant to waste combat forces in the region reason to reconsider their strategy, prompting the reinforcement of KSCB with Company E of the 2d Battalion, 9th Marines on 7 March.¹⁴²

It was not long before the new arrivals at Khe Sanh also came in contact with the enemy. On 16 March, a platoon of E/2/9 was ambushed while returning from a patrol of the same area. The Marines called in artillery on the NVA while a relief force was sent from KSCB, but the enemy refused to withdraw. Only after air strikes were coordinated to drive the enemy from the crest of Hill 861 were the Marines able to withdraw by helicopter, and even then it was under enemy fire.¹⁴⁴ The confrontation cost the Marines 18 dead and 59 wounded, but it did provide a new indication of enemy strength in the area, now assessed to be at two regiments.¹⁴⁵

For all the Marines suspected, the NVA 325C division operating in the region was still not ready to reveal itself in force. Even as an American engineer and infantry task force finally managed to reopen Route 9, which had been closed for two years, on 27 March,¹⁴⁶ there was no further contact with the enemy until 30 March. Even then, that brief contact was accidental. A Marine patrol discovered an empty NVA base camp a few kilometers northwest of Hill 861, where the last contact had occurred. While searching the vacant camp, the Marines came under mortar fire from an unknown location. Fortunately, they were able to contact an airborne FAC, who was then able to locate the mortar position, as well as an NVA company approaching the small Marine patrol. The FAC(A) hit the enemy with tactical aircraft, allowing the Marines to withdraw.¹⁴⁷ Similar to the patrol of two weeks before, the NVA responded in strength, but were beaten back by effective close air support and melted away into the highland jungle. The contacts of March 1967 were ominous, but again the enemy chose not to reveal himself in force until provoked by the patrol that would begin the ongoing two-week-long Hill Fights on 24 April, almost a month later. When the confrontation did happen, its intensity and duration were fueled by the fact that the Marines discovered an entire NVA division preparing to

attack Khe Sanh in order to repeat the tactical, operational, and strategic success of Dien Bien Phu in 1954.¹⁴⁸

The Hill Fights Begin

On 24 April, a patrol was again sent to reconnoiter Hill 861, the site of several earlier confrontations. As had happened before, the patrol was ambushed, and a relief force was sent out to rescue them. That relief force was also ambushed as it approached, but this time the lieutenant in command immediately called for air support, which broke the ambush's fire on the Marines.¹⁴⁹ This time the Marines did not merely withdraw after using air support to break contact. Two platoons of B/1/9 were ordered to seize Hill 861 from the enemy. Since they found themselves dramatically outnumbered, they temporarily backed off a short distance to allow aircraft and artillery to soften the NVA defenses. Even after these preparatory fires were delivered, the attack went poorly. Realizing that the determined and sustained NVA resistance represented a significant change in the enemy's behavior, the 3d Battalion, 3d Marines was sent to reinforce Khe Sanh. Committing a company to the attack on the day it arrived, 25 April, 3/3 began a pattern by which the Marines fed increasingly larger sized units into the battle piecemeal as the ones that were engaged were chewed up by the NVA. K/3/3 was virtually destroyed in its attack to support what remained of B/1/9, so III MAF's company-sized reaction force, designed to answer any emergency needs throughout the ICTZ, was moved in.¹⁵⁰ K/3/9 did not enjoy much greater success.

Even as the NVA mauled the Marines in their sustained effort to take Hill 861, the enemy also began to attack the combat base itself with heavy mortar and recoilless rifle fire. Coming from Hill 881S further to the west, these positions were hit with air support and artillery until the NVA ceased to fire on KSCB. Simultaneously, helicopter gunships were suppressing NVA fire from Hill

861 to allow the evacuation of Marines from the battle on Hill 861, a process that took all day.¹⁵¹ Now estimating that at least an NVA battalion was operating in the triangle formed by the three hills, on April 27th the Marines sent another battalion to reinforce Khe Sanh. What remained of the two companies in contact on Hill 861 for the last few days were withdrawn and replaced to keep the enemy engaged, while the 2d Battalion, 3d Marines prepared to launch a battalion assault on the hill on 28 April.

Because Hill 861 had proven so deadly to the two companies that attacked on 25 and 26 April, 2/3's battalion attack was preceded by a tremendous volume of supporting arms. The preparatory fires of 27 to 28 April included 764,700 pounds of aviation ordnance and more than 1,800 rounds of artillery of various calibers.¹⁵² While two B-52 "ARC LIGHT" strikes were delivered further to the north and west of Hill 861 to discourage the NVA from reinforcing the Marines' objective, the vast majority of the ordnance was delivered by tactical aircraft, especially those of the 1st Marine Air Wing, holding in huge stacks until they could be sequenced in to attack Hill 861 under the

Marines of G Company, 2d Battalion, 3d Marines on the edge of a bomb crater on top of Hill 861. The destruction wrought by the two-day bombardment required to reduce the NVA defenses is apparent.



control of both Marine and Air Force FAC(A)s.¹⁵³ The FAC's working over the objective developed a new technique for locating and destroying the enemy bunkers which had sheltered the NVA from the Marines attacking the hills on the previous days. CAS aircraft were directed to deliver 250-pound and 500-pound high-drag "snake eye" bombs in long "rippled" strings from low angle dives, stripping the hillside of trees and heavy foliage to expose the well-camouflaged bunkers. Once the bunkers were located, tactical aircraft delivered heavier ordnance, including 750-, 1000-, and 2000-pound bombs, from more precise high angle dives to destroy the bunkers themselves.¹⁵⁴ The hill was also heavily blanketed with napalm. On the first day of bombardment alone, nearly 75,000 pounds, or approximately 10,000 gallons of the jellied gasoline, was delivered.¹⁵⁵ All of this was concentrated on a piece of terrain of approximately one square kilometer in size. It is little wonder, therefore, that on the 28th, when 2/3 launched its attack up Hill 861, it found the objective, with its 25 bunkers and more than 400 fighting holes, completely unoccupied.¹⁵⁶ Without losing a single Marine, 2/3 captured a hill that had cost 39 Marines their lives just a few days earlier. The victory was an obvious triumph of supporting arms, especially the destructive power of fixed-wing close air support.

The attack was continued in a two-battalion operation the next day to dislodge any NVA that might have remained in the twin hill complex of 881N and 881S further to the west. Unfortunately, the NVA were apparently equally as determined to hold these hills as they had been on Hill 861, and the Marines encountered an interlocking network of defenses. The Marines had prepared for the contingency by preplanning another massive onslaught of supporting arms, but on the first day even the 1,685 artillery rounds fired and 323,750 pounds of ordnance delivered by 118 air sorties could not crack the NVA defenses.¹⁵⁷



As the Hill Fights continue, Marines of G Company, 2d Battalion, 3d Marines attack up Hill 881N. The battalion withdrew after sustaining heavy casualties, as did the 3d Battalion in its attack on Hill 881S. As happened on Hill 861, the attacks were halted for two days of heavy bombardment, after which 881S was taken with little resistance.

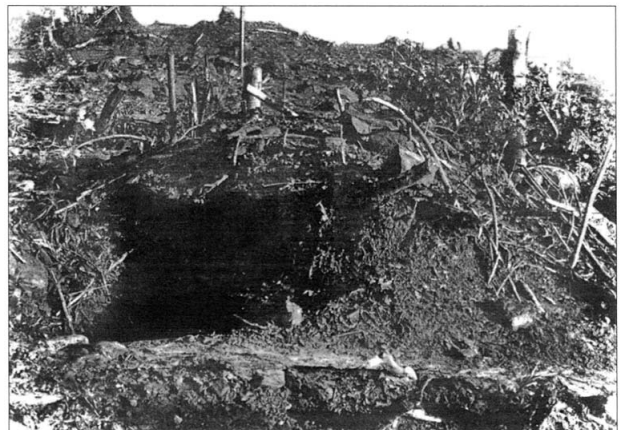
The decision was made to continue the attack the next day, after supporting arms had more time to soften the NVA defenses. The two hills were bombarded by artillery and air throughout the evening and night, ending only when the battalions crossed the line of departure at 0800, with another massive assortment of preplanned support on call. Yet again, the Marines met fierce resistance from a well-entrenched enemy. On the approach to Hill 881N, 2/3 withdrew after sustaining 9 KIA and 43 WIA. Artillery and aircraft were used to work over the enemy, while on Hill 881S, 3/3 enjoyed even less success. After meeting withering fire from NVA soldiers in a network of well-camouflaged bunkers, the attack ground to a halt. Attack aircraft and helicopter gunships delivered suppressive fires as close as 50 meters from friendly positions, but after several hours the attack still failed and the battalion withdrew. The only thing 3/3 had to show for its efforts was 163 NVA bodies and 26 dead Marines.¹⁵⁸

The Bombardment of Hill 881S

The horrible losses of 30 April were compounded by the fact that the Hill Fights were the first major battle by Marines equipped with the new M16 rifle. The untested weapon proved deadly in combat because of its tendency to jam. This shortcoming that was only rectified after a Congressional inquiry, precipitated by stories of Marine bodies from the Hill Fights being found lying next to rifles with cleaning rods stuck down the barrels. These Marines had been killed not while firing back at the well-entrenched enemy, but while attempting to clear spent casings from the chamber of jammed weapons.¹⁵⁹ Lieutenant Colonel Gary Wilder, the commanding officer of 3/3, was surely disturbed by reports of the new rifles jamming when they were needed most. Whatever the reason, he refused to attack the hill again until it had been subjected to an even heavier program of preparatory fires.¹⁶⁰

The preparatory fires scheduled and delivered on 1 May were nearly unprecedented in Vietnam for their intensity and duration, and Robert Pisor goes so far as to say that no other target in the

More than four months after the Hill Fights, the sheer destructiveness of the bombardment of 1-2 May is still evident. Although the NVA had abandoned the hilltop as most of its defenses were reduced to rubble, some of the 250 bunkers built there did survive, like this one, just 15 feet away from a large bomb crater.



Vietnam War was so heavily bombed.¹⁶¹ At the very least, the attack delivered nearly twice as much ordnance as each of the days preceding it. 1445 artillery rounds and 166 Marine air strikes hit the two hills, concentrating on Hill 881N in the morning and 881S in the afternoon. A combination of tactical aircraft and B-52s delivered over 650,000 pounds of ordnance on the hills, including 130 of the heavy 2,000-pound bombs.¹⁶² The senior Marine in the area, Colonel John P. Lanagan, observed the bombardment. Even this veteran, who had been awarded the Silver Star for his performance in combat on Okinawa 23 years earlier, stated that he had never seen more devastating firepower than the hell rained down on 881S.¹⁶³ Psychologically, the bombardment became too much for the NVA to endure. At one point in the middle of a series of heavy air strikes, a platoon-sized element abandoned their bunkers and ran out to certain death in the maelstrom of fire and steel.¹⁶⁴ When the Marines finally advanced up 881S on the morning of 2 May, the only resistance they encountered was sporadic sniper fire. Arriving on top of Hill 881S, they found the hill deserted, and approximately 80 percent of the 250 bunkers there caved in by the bombardment.¹⁶⁵ The volume of ordnance employed over the four days of heavy air strikes and artillery bombardment had been staggering. Nine months later, when Marines returned to this same hill to build their own bunker complex, engineers could not harvest what few trees remained in the moon-like landscape because the trunks were too full of steel shrapnel for their chain saws to cut.¹⁶⁶ The body count reported by the pilots who flew the missions on May 1st totaled at only 140 NVA dead,¹⁶⁷ but this dubious measure of combat effectiveness certainly overlooked a number of additional casualties. The following year, as Marines dug their own bunkers on Hill 881S, their entrenching tools periodically struck pockets of putrefied flesh deep in the red clay soil, the remains of NVA soldiers who had been buried while defending the hill from 3/3.¹⁶⁸

The Cleanup

With the capture of Hill 881S, a major obstacle to the final objective of clearing the NVA from the hills west of Khe Sanh had been achieved. The NVA, however, were not ready to give up. Unknown to the Marines, the 325C division had withdrawn what remained of its 18th Regiment from 881N to base camps in Laos, only to replace it with elements of the 95C Regiment. As Wilder's battalion swept over the abandoned Hill 881S, Lieutenant Colonel Earl R. DeLong continued 2/3's attack from an intermediate objective seized east of 881N. Once again the Marines were met by automatic weapons fire and mortars. Supporting arms were used to silence the enemy, but poor weather and stiffening resistance as they attempted to press the attack further convinced the Marines to abandon the effort.¹⁶⁹

The fresh enemy troops tried to capitalize on the situation by attacking launching a counter attack at night to cover the withdrawal. In the early morning hours of 3 May, the NVA advanced right up to the Marine lines. The attack was halted at 0430 only by a combination of artillery, air support from tactical aircraft, and the arrival of a C-47 gunship. The delivery of flares by the gunship and a supporting flare ship also allowed the Marines to make better use of their own organic small arms, and enabled 3/3 to call in artillery missions from their newly-won vantage point on 881S.¹⁷⁰

At some point on 3 May the Marines decided to try a new approach, and 2/3 moved south to join 3/3 on 881S. From that position, on 4 May 2/3 attacked northward along the saddle between the two hills, rather than up the steep eastern face. The new attack was quickly repulsed, weakened by poor weather which ruled out the use of fixed-wing CAS.¹⁷¹ The next day the weather was good enough to allow a thorough preparation of the objective with artillery, napalm, and 250-pound and 500-pound bombs. As a result, the final attack

which seized the entire Hill 881N complex succeeded at a cost of only six wounded Marines.¹⁷²

Even as the Marines were succeeding in driving the 18th Regiment from the hills west of Khe Sanh, the NVA were modifying their plans. The introduction of the 95C regiment to 881N not only brought a night counter attack on 2/3's defensive positions east of the hills, but also an attack by part of the regiment on the Special Forces/CIDG camp in Lang Vei, far to the west. As 2/3 prepared to attack Hill 881N from the south on the night of 3-4 May, the NVA attempted to overrun the Green Berets. The nighttime battle raged in the distant sight of the Marines over the hills seven kilometers northward on 881S, who could not reach the isolated camp. The NVA penetrated deep into the heart of the camp, but ultimately Lang Vei was saved. It is unclear whether the NVA made a planned withdrawal because the attack was merely a diversion for the Hill Fights, or if they were driven back by the combined effects of Marine artillery support, two helicopter gunships, a C-47 "Spooky" gunship, and the arrival of other fixed-wing CAS aircraft as dawn approached.¹⁷³ Either way, supporting arms were an important contribution to the defense of the outpost.

As Hill 881N was finally occupied on 5 May and the two battalions began searching the area, the second NVA regiment withdrew. FAC(A)'s remained on station to monitor the likely avenues of retreat for lucrative artillery and air targets, but the enemy slipped away. In the few fleeting glimpses achieved, there were some gunship attacks and artillery missions, but the most notable aviation-related event of the period was the first known surrender of an NVA soldier to an aircraft. A Huey FAC(A) spotted a soldier waving a white flag at him, and swooped down to transport the Vietnamese back to the rear.¹⁷⁴

The NVA proved almost as elusive to the ground units operating around Khe Sanh after 5 May. During this period large patrols were sent

out 10-15 kilometers daily, but the Marines did not encounter any NVA with two exceptions.¹⁷⁵ On 9 May, one patrol was operating in a deep valley when it became surrounded by an NVA force of undetermined size. The artillery forward observer and FAC with the patrol could not establish radio communications with their supporting agencies due to the intervening terrain. Fortunately, the company commander's resourceful radioman managed to contact a passing F-8, probably by hailing the aircraft on guard. Although the aircraft had already delivered its ordnance on another mission, it did make two "dry" runs on the NVA, simulating its attack profile in an effort to intimidate them. As a testament to the psychological impact of close air support after the recent devastation around Hills 861, 881S, and 881N, the trick apparently worked.¹⁷⁶ The second and final contact in the period immediately after the Hill Fights occurred the next day when the much smaller Recon Team Breaker was surrounded. Artillery and airstrikes did manage to keep the enemy at bay (who may have only been using the recon team as bait), but heavy ground fire prevented three rescue attempts. The fourth succeeded only with close fixed-wing and gunship coverage.¹⁷⁷

Summary of the Hill Fights

In terms of operational objectives, the Hill Fights were a success. From 24 April to 13 May, the Marines cleared the NVA 18 and 95C Regiments from the hills west of Khe Sanh. In the process, they stopped a force which had probably been massing to attack the combat base. Most sources estimate that there were at least 940 NVA killed at a cost of 155 Marines killed and 425 wounded.¹⁷⁸ Of the Hill Fights, the Marine Corps operational history for Vietnam in 1967 states, "Although aggressive infantry assaults finally took the various objectives, much of the credit for overwhelming the enemy force belongs to the supporting arms... Air attacks were

particularly affective in uncovering and destroying enemy bunkers and fortifications.”¹⁷⁹ The 1st Marine Air Wing provided the bulk of this support, with over 1,100 sorties dropping over 1,900 tons of ordnance. While 23 B-52 strikes did attack deeper interdiction targets in support of the battle, like enemy formations, stores, and lines of communication,¹⁸⁰ they could have accounted for no more than 690 tons of additional ordnance.

During the Hill Fights, close air support was used extensively and decisively by the attacking forces. The Marines repeatedly advanced to make contact with the enemy until resistance became significant, and then used artillery and close air support to destroy the NVA. Sometimes they would withdraw a short distance to allow the more liberal use of heavy ordnance and to

minimize the risk to the infantry Marine, but the attack was never resumed until the enemy positions were judged to have been reduced. In this effort, air power was primarily directed at targets identified by friendly maneuver elements in close proximity to the enemy on a fluid battlefield, all in order to accomplish ground force objectives. In other words, true close air support was decisively employed.

In *The End of the Line*, Robert Pisor observed that it was standard Marine practice in Vietnam to seek contact, then pull back to let artillery and air wreak destruction on the enemy.¹⁸¹ For this study, the Hill Fights provide a dramatic illustration of Marine air-ground tactics and their effectiveness, as well as a framework to understand the even more dramatic application of close air support to the siege of Khe Sanh the following year.

THE SIEGE OF 1968

Following the Hill Fights, as the enemy force seemed to fade away in early May, the Marines took advantage of the opportunity to reduce the size of the force they had at Khe Sanh. 2/3 and 3/3 were replaced by the 1st Battalion, 26th Marines, which began saturation patrols to fully explore the area in Operation Crockett on 14 May 1967. These patrols radiated outwards from the company defensive positions in the hills that had been the bloody scene of the Hill Fights just weeks earlier. The Marines did not want to patrol beyond the range of supporting artillery at Khe Sanh, so the outposts set up on Hills 861 and 881S both prevented the enemy from simply re-occupying the bitterly contested positions, and provided places from which mortars could provide additional cover for the patrols operating out to 4 kilometers from their lines. Events soon proved that the NVA had not actually abandoned the field, but had merely withdrawn to break contact and end the bloody Hill Fights

On 6 June, a small enemy force attacked the radio retransmission station located on Hill 950, one of the three peaks of Dong Tri Mountain, just 3,000 meters north of the Khe Sanh Combat Base perimeter. The NVA overran the position, only to be thrown back by a small group of survivors who rallied from within. The next day a platoon-sized patrol from Company B, 1/26, was attacked west of Hill 881S. In response to the enemy's sudden willingness to reveal himself, and the increasing enemy activity further east at Con Thien, 3/26 was sent to KSCB. This brought Khe Sanh back to two-battalion strength so the hill positions and base defenses could be reinforced, while more forceful and regular patrols were conducted.

The Isolation of Khe Sanh

While a relative lull began in contact between the combat forces around Khe Sanh, the NVA did succeed in isolating the village and combat base by effectively closing Route 9, which after

The defensive position on Hill 861 seen from the air in July 1967. Hill 861 was one of the critical outposts guarding the western approach to Khe Sanh Combat Base.



two years of non-use had only been opened for four months. On 21 July, a convoy of 85 vehicles was proceeding west, bringing heavy U.S. Army 175mm artillery to KSCB that would more than double the range of the artillery at Khe Sanh. The convoy was ambushed and the escorting infantry succeeded in engaging the NVA, but the artillery could not pass further west, and was forced to return to Camp Carroll. While smaller convoys occasionally did make it through for a short while afterward, they were high-risk operations that consumed an inordinate amount of security forces, even as enemy activity was increasing and stressing III MAF's resources throughout the rest of the ICTZ. During the fall, the matter was even more decisively settled when a critical bridge over the Roa Quan River was destroyed,¹⁸² and the movement of heavy equipment to and from Khe Sanh ceased. Six tanks and Ontos tracked recoilless rifle carriers, which had been moved in to reinforce KSCB, were stuck at Khe Sanh, and the 175mm artillery could move no further west than the Rockpile. This effectively denied the defenders of Khe Sanh 18 kilometers of additional range to fire on NVA forces in Laos, and put them at a disadvantage. They could be hit by the NVA 130mm heavy artillery from 27 kilometers away, but could not answer with counterbattery fire further than 14.6 kilometers from the combat base.

There were several changes that occurred at Khe Sanh itself during this period. The first was that Colonel David E. Lownds took over the 26th Marines in a regularly scheduled change of command on 14 August. In assuming this command, Lownds became the senior officer at Khe Sanh and would remain so for the next eight months, through the famous siege of 1968. Lownds was 46 years old, had fought as a young officer on Kwajalein, Saipan, and Iwo Jima, and had just arrived for his first tour in Vietnam one month earlier. Lownds practiced leadership with flair, exemplified by the nonregulation handlebar

mustache he grew and refused to shave until the siege was over, but he also brought a very cautious approach to dealing with the NVA. His wise leadership paid off by foiling NVA plans on several occasions, including his supervision of the immediate task of patrolling around Khe Sanh in Operation Ardmore.

An even more dramatic effect on Khe Sanh was created by decisions made by General Westmoreland in the summer of 1967. Khe Sanh had always been a place of special interest to him, as he later wrote of his first visit in early 1964,

The critical importance of the little plateau was immediately apparent... Khe Sanh could serve as a patrol base for blocking enemy infiltration from Laos; a base for [secret border crossing] operations to harass the enemy in Laos; an airstrip for reconnaissance planes surveying the Ho Chi Minh Trail; a western anchor for defenses south of the DMZ; and an eventual jumping-off point for ground operations to cut the Ho Chi Minh Trail.¹⁸³

By 1967, Khe Sanh had already been used for the first three purposes, and with the beginning of construction of barrier defenses along the DMZ that spring, Khe Sanh was considered a key link in the "McNamara Line." This was a string of manned strongpoints along the northern edge of the ICTZ behind a strip of cleared land which was seeded with seismic and acoustic sensors, supposedly forming an "electronic barrier" against NVA infiltration southward. Westmoreland believed that this barrier guarded Khe Sanh's eastern flank from NVA infiltration. At the same time, Khe Sanh would serve as the westernmost strongpoint, preventing the NVA from going around the barrier to enter I Corps from the west.¹⁸⁴ Westmoreland was also convinced Khe Sanh would soon be prepared for the last use on his list: a base for operations into Laos.

From the start of his assignment as COMUSMACV, Westmoreland harbored ambitions of even-



Seabees of Mobile Construction Battalion-301 set and seal aluminum runway mats into place at Khe Sanh Combat Base.

tually taking the war to Laos to stop the frustrating infiltration that was occurring along the Ho Chi Minh Trail. In 1966 and 1967 he had his staff draft plans to use a corps-sized force of at least three divisions to try and apply this conventional ground strategy to an unconventional war.¹⁸⁵ Westmoreland told his staff that there were two preconditions which had to be satisfied before

active combat operation into Laos would begin. The first would be the end of the monsoon season, and the second would be the securing of the operations right flank along the DMZ by completion of the McNamara Line. Even during the Hill Fights, Westmoreland had been arguing for the further reinforcement of the base and an invasion of Laos.¹⁸⁶ After the tactical and operational success of the Hill Fights, which most likely interrupted the NVA in preparations to seize Khe Sanh, Westmoreland resolved to hold the outpost as a base for future operations into Laos. On 4 September, MACV sent a proposal on this plan to Admiral Sharp, CINCPAC.¹⁸⁷ In the meantime, Westmoreland took the liberty of beginning to prepare the base.

Khe Sanh's runway was a strip of the same pierced aluminum matting that had found such wide use in the Second World War. Laid directly on the dirt surface of the plateau, it was only designed for light aircraft. During the high logistic demands of the Hill Fights, the runway was pounded by a continuous stream of heavily loaded

A C-123 Provider becomes the first fixed-wing aircraft to land on the improved airfield at Khe Sanh Combat Base. In the background are several revetted helicopters, and in the foreground is the Precision Approach Radar used to guide aircraft in to land during low visibility conditions.



C-130s. The “Hercs” would touch down and ripple the aluminum matting in front of the aircraft, pushing a wave of metal ahead of the aircraft as it rolled down the strip. In addition to damaging the matting itself, the wave action pumped the water and mud from beneath it, washing away the dirt supporting the runway. On 17 August, after a Navy construction unit arrived, the runway was closed to be completely rebuilt. Over the next three months, the Seabees tore up all the old matting and replaced the undersurface with crushed rock quarried just outside the base perimeter. Once the undersurface was completed, a new runway of solid aluminum planking was laid down. In the meantime, with Route 9 closed, KSCB was completely dependent on helicopter-delivered supplies. Perhaps to reduce this burden, and considering the diminished NVA contact around the base, 3/26 was withdrawn. This left 1/26 as the sole battalion defending Khe Sanh once again, preventing the Marines from conducting aggressive patrols. The base was increasingly isolated, especially as its critical air link to the coastal region was weakened by the arrival of monsoonal winds and foggy, low rain clouds (referred to as crachin by the French) in October and November. As soon as the new runway was opened ahead of schedule on 27 October, Westmoreland began stockpiling supplies for a multi-division strike across the border.¹⁸⁸ His plans, however, were interrupted by the enemy.

The Growing NVA Presence

In December 1967, NVA activity around Khe Sanh increased considerably. Enemy vehicular traffic along the Laotian roads and trails nearby increased from a monthly average of 480 trucks in the fall, to 6,000 by the end of December. Evidence of heavy weapons was found, as well as new bunkers on Hill 881N. Sniper fire on the Marines occupying Hill 881S increased, and the NVA began probing attacks to test the Marine defenses on Hill 861 and the radio relay station on Hill 950.

Ultimately, intelligence assessed that the NVA 304 and 325C Divisions had crossed into South Vietnam in November and were closing in on Khe Sanh from the west, while the 320 Division was further to the east, in the vicinity of the Rockpile. While not an immediate threat, this third division was within a short march of supporting the other two. Also to the east was an additional regiment and another battalion, probably devoted to preventing movement along Route 9.¹⁸⁹ Except for the fact that the runway had been reopened and combat stores had been stockpiled at KSCB for a month, things were looking grim for Khe Sanh.

The increasing enemy activity was monitored by Lieutenant General Robert Cushman, who had taken over as the Commanding General of III MAF in June 1967. On 9 December, he decided that Khe Sanh was a likely target for NVA attack, and that the combat base would have to be reinforced in accordance with Westmoreland’s objectives, instead of abandoning it as III MAF had earlier planned. Major General Rathvon M. Tompkins, who had assumed command of the 3d

General William C. Westmoreland visits Marine positions, escorted by the Commanding General of III MAF, Lieutenant General Robert E. Cushman Jr., on the left.





3d Battalion, 26th Marines, just after landing to Khe Sanh Combat Base on 13 December 1967 to reinforce the garrison in response to the growing NVA presence. Most of 3/26 was subsequently sent to occupy outposts on Hill 861 and 881South.

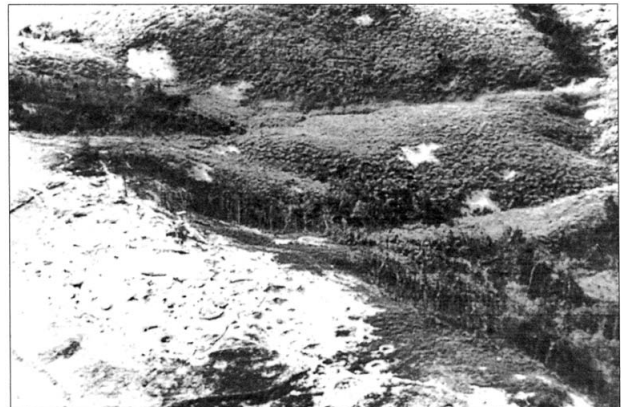
Marine Division just 16 days earlier, diverted 3/26 to Khe Sanh from another mission. With two battalions at Khe Sanh once again, the Marines struggled to regain the initiative. Search and destroy operations recommenced immediately, feeling westward over the same territory where the Hill Fights had been waged. These operations found the traces of large enemy units, but as before, the NVA refused to reveal themselves in force. Looking back on it, one Marine recalled,

We went several days. We headed out towards Laos... We found some old NVA fighting positions. We sat on ridgelines at night and sent out ambushes. We just made no contact...I look back on it now and try to reflect sort of how crazy it was for just a company to be that far out of Khe Sanh, knowing later that there was just thousands of North Vietnamese just hiding there, just waiting, not wanting to make contact with us. It's...amazing that any of us came back.¹⁹⁰

In the meantime, the hilltop positions west of Khe Sanh were strengthened. As one staff officer put it, "Both General Thompkins and Colonel Lownds were well aware of what had happened

at Dienbienphu when the Viet Minh owned the mountains and the French owned the valley. It was essential that the hills around Khe Sanh remain in the hands of the Marines."¹⁹¹ Closest was Hill 861, where the newly arrived K/3/26 continued the major mission of that outpost, patrolling the terrain immediately west of KSCB. Further to the west, 881S was considered by many to be the most important of the hill outposts, anchoring a ridgeline reaching all the way eastward from Laos. The hill had excellent observation of the combat base itself, and was the highest

The defensive positions on Hill 881S, the westernmost of the critical hill outposts.



of the surrounding hilltops. Not only had 881S proved immensely costly to capture during the Hill Fights, but it also sat very close to the extended centerline of KSCB's runway. If the NVA were allowed to capture the hill, aircraft taking off to the west, or approaching to land from the west in low and slow flight profiles, would be very vulnerable to anti-aircraft fire. This could cause serious problems for a major combat base dependent on supply and reinforcement from the air.¹⁹² 1/3/26, commanded by Captain William H. Dabney, took over the defense of Hill 881S to prevent this from happening. At its peak, this critical outpost was reinforced with elements of a second company, 81mm mortars, 106mm recoilless rifles, three 105mm howitzers, a helicopter support team, and even signals intelligence Marines, for a total of more than 400 men.¹⁹³ Reconnaissance patrols ventured out further into the mountainous jungles, even searching for elephant feces which would indicate the presence of pack animals carrying heavy NVA equipment down from the North. Searches on the ground were supported by even greater efforts in the air. Beginning in late December, a great variety of sensors were being employed, including aerial photography in the visual and infrared spectrums, side-looking airborne radars, electrochemical sensors capable of detecting trace amounts of sweat and urine in the air, and signals intelligence aircraft.¹⁹⁴ The Marines knew the enemy was out there, but their efforts to locate the NVA were rewarded only with frustration. Until the NVA allowed themselves to be discovered, the Marines had to be content with reinforcing their defenses.

The Decision to Hold Khe Sanh

In the early morning hours of 2 January 1968, a Marine listening post 400 meters west of the main combat base perimeter heard movement in the dark. A reaction force was mustered and sent out to investigate, and surprised six figures walking in the dark nearby. When the intruders did

not answer the challenge, the Marines opened fire. Receiving no return fire, but fearing that a major assault was imminent, the Marines withdrew back to the perimeter. No assault ever materialized, but the next morning five bodies were found where they had fallen, and blood trail indicated that a sixth had escaped after stripping the others of their rank insignia and documents. The evidence that remained was sufficient to conclude that the party had been a group of NVA officers, one of them senior enough to be a regimental commander. The fact that at least five NVA officers would approach so close to Khe Sanh did not bode well. It spoke not only of an enemy with great confidence inspired by familiarity with Marine dispositions and NVA numerical superiority, but it also suggested that these officers were conducting a "leaders' reconnaissance" in preparation for an attack.¹⁹⁵ News of the encounter was expedited up the chain of command and reached Westmoreland within hours. He accepted the evidence as final confirmation that a large-scale enemy attack on Khe Sanh was imminent.¹⁹⁶ Now had two choices: hold the base or withdraw. He chose to hold Khe Sanh despite the increasing NVA presence both to preserve the outpost as a future base for operations into Laos, and as part of the larger interlocking barrier defense system along the DMZ. Khe Sanh served to protect the left flank of the McNamara Line, which would in turn protect the right flank of operations from Khe Sanh into Laos.

Westmoreland, unlike the Marines at Khe Sanh, was not alarmed by the enemy activity. The reinforcement of Khe Sanh to defend against an attack would be a win-win situation for his strategy. On the one hand, if the enemy refused to attack, MACV would be one step closer to having the necessary force in Khe Sanh to invade Laos.¹⁹⁷ On the other hand, if the enemy did attack, the NVA would have to commit massive forces if he was to have any hope of taking Khe Sanh, creating a conventional battle in a frustrating unconven-

tional war where U.S. firepower could seldom be brought to bear on an elusive enemy. In many ways, Westmoreland saw an enemy attack at Khe Sanh as simplifying his problem because it would allow him to destroy the primary enemy forces that would oppose his invasion of Laos. The defeat of the NVA in a pitched battle would also have been a well-timed political victory for Westmoreland, whose conventional strategy was facing increasing criticism and crumbling political support from the American public, Congress, Secretary of Defense McNamara, and even President Johnson.¹⁹⁸ With regard to Khe Sanh specifically, in Washington there was great concern that defending Khe Sanh was ceding the initiative to the North Vietnamese, offering them another Dien Bien Phu, and diverting U.S. forces that were needed elsewhere.¹⁹⁹ Westmoreland countered this concern by arguing that fighting the enemy in the wilderness of the highlands would merely preclude having to wage the same battle in the lowlands, where fire support would be hampered by the much denser civil population.²⁰⁰

Con Thien and Dien Bien Phu: The Historical Precedents

Westmoreland's decision to wage a battle of annihilation against a numerically superior force at a location so close to their sanctuary in Laos, but so distant from tenuous, weather-dependent U.S. support on the coast, was a daring one.²⁰¹ He made this decision, however, with two historical precedents in mind that he believed supported his decision, the battles of Con Thien and Dien Bien Phu.

Con Thien was a small village about 30 miles northeast of Khe Sanh, 2 miles south of the DMZ, and 14 miles inland (see Figure 1). The location was significant for two reasons. First, it was the northwest corner of a region that came to be nicknamed "Leatherneck Square." Roughly 11 kilometers on a side, the area was bounded by

Gio Linh to the east, Dong Ha at the southeast corner, and Cam Lo south of Con Thien. Here the Marines of III MAF engaged in some of the bitterest and most sustained fights with the NVA over the course of 1967 and 1968 trying to stop southward infiltration from the DMZ. Con Thien was a small hill 158 meters high in the middle of a flat plain, allowing excellent observation in all directions, but most critically north to the DMZ along the Bien Hoa River, and across Leatherneck Square to Dong Ha, 14 kilometers to the southeast. This made the location the logical choice for one of the strongpoint defensive positions that would overlook the McNamara Line's electronic barrier along the DMZ and protect the ICTZ from enemy thrusts southward through the DMZ. In April 1967, as the Hill Fights were raging at Khe Sanh, engineers were building a road connecting Con Thien to the next outpost 11 kilometers to the east, Gio Linh, the northeast corner of Leatherneck Square. This activity apparently got the attention of the NVA, who began a buildup in the foothills to the west. On 8 May 1967, the 13th anniversary of the victory at Dien Bien Phu, the NVA attempted to overrun the defenses of two companies of 1/4 at Con Thien. An estimated two battalions of NVA armed with flamethrowers, RPGs, and automatic weapons assaulted the hill after an artillery and mortar bombardment. Once the NVA breached the defensive wires with Bangalore torpedoes, a desperate hand-to-hand fight broke out, and the Marines eventually succeeded in restabilizing the lines only after six hours. Having failed to completely capture the hill, the North Vietnamese were forced to withdraw under fire and without cover in the flat plain around it. One hundred ninety-seven NVA bodies were found, and eight of the enemy were captured.²⁰²

Despite the setback, the NVA were unwilling to give up on Con Thien. They had approximately 35,000 troops massed north of the DMZ to invade northern Quang Tri Province, and feared that the continued construction of the strongpoint bar-

rier system would soon block any southward attack. Con Thien was deemed a keystone of the Marine defense, and remained the focal point of NVA effort. Two more major thrusts were made, but they both collapsed in the face of Marine ground unit maneuvers combined with supporting arms.²⁰³

The first NVA attack began in the early days of July. The Marines responded aggressively to the new threat with search and destroy operations under the code name Buffalo. This sustained contact from 2 to 7 July ultimately occupied two battalions of the 9th Marines before the second attack by the NVA regiment was defeated, and the enemy retreated northward under continuous air and artillery attack.²⁰⁴ When Operation Buffalo was officially concluded on 14 July, the Marines counted 1,290 enemy dead for the 159 Marines they had lost. Artillery and naval gunfire were credited for killing more than 500, and while the killed by air (KBA) estimate was unstated, Marine aircraft had dropped 1,066 tons of ordnance in support of the operation.²⁰⁵

While air power was a key component in defeating the NVA infantry attacks of May and July 1967, it was less successful against the enemy artillery. Intelligence reported that it had located approximately 130 of these sites exposed during the operations around Con Thien, and MACV decided to capitalize on the opportunity by massing its air power against them in a new plan it optimistically classified as a SLAM (Seek, Locate, Annihilate, and Monitor) operation. This specific plan, Operation Headshed, used the entire joint spectrum of Strategic Air Command B-52s, tactical aircraft of the 7th Air Force, 7th Fleet, 1st MAW, and VNAF, as well as artillery and naval gunfire, in attacks on the enemy fire support positions. By the end of the year, however, less than 40 NVA weapons had been destroyed.²⁰⁶ While air power helped defeat enemy assault forces massed around Con Thien, concentrating joint air power

in SLAM operations was unsuccessful when the enemy targets were dispersed. Westmoreland and his staff were willing to overlook this qualification in favor of a more optimistic precedent for Khe Sanh.

The precedent which Westmoreland and his staff chose to focus on in January 1968 was the second major NVA assault on Con Thien, which occurred in September, concentrating the enemy in such numbers that another SLAM operation could be decisive. General William W. Momyer, the new Commanding General of the 7th Air Force and Westmoreland's Deputy for Air Operations, planned to capitalize on the opportunity by massing air power once again, using Con Thien as bait in Operation Neutralize. 3/26 was brought in from Khe Sanh after the Hill Fights to reinforce Con Thien, and 13,000 villagers were removed from their homes along the Ben Hai River to give his heavy bombers freer reign to attack NVA crossing the DMZ.²⁰⁷ Three thousand shells were fired at Con Thien in a nine-day period, causing the Marines heavy casualties, but when two NVA battalions massed to attack Con Thien, they were decimated. In September alone, 790 of the 830 total B-52 sorties flown over the entire country were targeted on NVA forces around Con Thien, and the heavy bombers dropped 22,000 tons of ordnance in 49 days.²⁰⁸ The combined effort of strategic bombers and tactical aircraft attacks from all four services in Operation Neutralize were credited with killing 2,000 of the NVA attackers.²⁰⁹ Westmoreland voiced an estimate that 7,000 NVA had died in the futile attempt to take Con Thien, and called it a "Dienbienphu in reverse."²¹⁰ With the victory at Con Thien, Westmoreland and Momyer felt they had perfected SLAM operations as an excellent tool for turning enemy sieges into battles of annihilation. Westmoreland later stated that "Off and on for forty-nine days SLAM strikes pummeled the enemy around Con Thien and demonstrated that massed firepower was in itself sufficient to force a besieging enemy

to desist, a demonstration that was destined to contribute to my confidence at a later occasion [Westmoreland's emphasis]."²¹¹ The situation to which he referred was Khe Sanh.

Of course, there was another historical precedent which was on just about everyone's mind on both sides of the conflict in January 1968: Dien Bien Phu. The specter of Dien Bien Phu haunted many Americans, from the young Marine privates at Khe Sanh all the way up to their commander in chief, who agonized over the subject throughout the three-month siege.²¹² Westmoreland, however, felt he had every reason to assure President Johnson that this siege would be a victory for the defenders. In addition to the recent victory at Con Thien, Westmoreland could also point to the 29 October defeat of an NVA force attacking the Loc Ninh Special Forces Camp. In this battle supporting arms were credited with killing up to 2,000 members of what Westmoreland claimed were four NVA regiments attacking the camp. Incidentally, this battle was also the occasion when MACV announced that a crossover point had finally been reached in the war, since communist forces were finally losing troops faster than they could recruit replacements to fight the Americans in Westmoreland's war of attrition.²¹³

The resemblance between Khe Sanh and Dien Bien Phu was more than superficial. In addition to the fact that one of the divisions attacking Khe Sanh was a veteran of the victory at Dien Bien Phu, the NVA had again achieved an advantage by occupying high ground surrounding their enemy. To make matters worse, in 1968 the North Vietnamese were equipped with even heavier artillery than they had been in 1954. The enemy forces were also still under the command of Vo Nguyen Giap. His leadership in 1954 had resulted in the capture of the 9,600 man French garrison after 56 days of siege, including three major assaults and a total of more than 7,000 killed and 15,000 wounded. Most hauntingly, at Dien Bien

Phu the French, like Westmoreland, had been attempting to lure the Viet Minh into a conventional battle where they could be destroyed by superior firepower.

When President Johnson looked at the startling similarities and warned, "I don't want any damn Dinbinfoo,"²¹⁴ Westmoreland was armed with a battery of explanations why the two sieges would have different outcomes. Unlike the remote Dien Bien Phu, Westmoreland insisted that Khe Sanh would benefit from much heavier air support from a whole host of nearby bases that were only a quarter of the distance away. Statistics told him that the Americans were much better equipped than the French had been to use air power to both supply and defend the combat base. To supply a smaller garrison, the Air Force's 834th Air Division had 240 transports in January 1968. Even after the delivery volume of this fleet was cut in half by poor weather, enemy fire, and other factors, this fleet alone could deliver

After enemy activity around Route 9 forced their Khe Sanh-bound convoy to turn back on 21 July, the Army 175mm guns had to set up at Camp J.J. Carroll, more than 30 kilometers to the east. Although the 16 M107 guns of the 2d Battalion, 94th Artillery Regiment fired many missions into the hills around Khe Sanh in support of the defense, from Camp Carroll they could not range the NVA heavy artillery kept along the Laotian border. As a result, the enemy's heavy artillery was untouchable, except when it could be located and attacked with air power.



three times more supplies to Khe Sanh than the French had been able to send to their garrison at Dien Bien Phu, which was more than 50 percent larger.²¹⁵ When the 273 helicopters and five C-130s of the 1st Marine Air Wing in Vietnam were added to this number,²¹⁶ the Americans could be expected to benefit from a logistics volume that was many times greater per defender than the French had enjoyed at Dien Bien Phu. The Americans also had the benefit of superior fire support for the forces at Khe Sanh. While the French had a total of 200 planes to support their defense, but were weakened by an inadequate air command and control system, and an insufficient number of pilots and maintenance services to keep all these planes in active use. The Americans, on the other hand, benefited from an armada of 2,000 attack aircraft, 3,000 helicopters, and 24 B-52s—in short, more than 50 times the destructive air power. When weather hampered air support, Khe Sanh would also be provided with around-the clock artillery support,²¹⁷ including the sixteen 175mm guns at Camp Carroll. With the recent victory at Con Thien in mind, and the conviction that he would succeed at Khe Sanh where the French had failed, Westmoreland ordered the planning for a massive SLAM campaign to begin on 5 January. The next day he personally selected the code name—Operation Niagara²¹⁸—evoking the image of an unstoppable waterfall of bombs which would sweep the enemy aside by its sheer volume.

Preparation for Battle

Planning for Niagara was conducted under the supervision of Westmoreland's Deputy for Air Operations, General William Momyer, U.S. Air Force. The operation was to be conducted in two phases. In the first phase, Niagara I, air and ground reconnaissance assets would locate the enemy. In the second phase, Niagara II, air power would destroy the massed enemy forces through B-52 carpet bombing and precision air strikes by tacti-

cal aircraft.²¹⁹ Even before III MAF was notified of the general outline for the new plan on 6 January, and before detailed planning occurred at Da Nang from 9 to 15 January,²²⁰ MACV began preparations for the battle. The first major effort was to ensure that every available intelligence asset was being brought to bear to locate the NVA around Khe Sanh and prevent any more surprises. On 8 January, MACV directed that all of the various services' intelligence gathering activities focus on Khe Sanh.²²¹ Next he began to move forces northward to reinforce I Corps, under the code word Checkers. The end result of this movement was that the ICTZ would have nearly 50 U.S. combat battalions, or half of all U.S. combat troops in Vietnam, for a total of 250,000 allied troops positioned to meet the NVA. The pattern of reinforcements indicate that Westmoreland was looking even further ahead. As the NVA movements met his expectations by massing in an even more imminent threat to Khe Sanh, Westmoreland sent his two premier divisions, the 101st Airborne and 1st Air Cavalry, northward to base camps only 30 minutes from Khe Sanh by helicopter. COMUSMACV was preparing for the follow-through to a victory of air power at Khe Sanh by positioning forces for the invasion of Laos.²²²

The Marines were troubled by some of the changes Westmoreland wanted to make to command relationships. General Momyer had been arguing for some time that the fixed-wing air assets of III MAF should be consolidated under 7th Air Force control for a true joint air effort, and Operation Niagara gave him an urgent situation to get Westmoreland to commit to the change. MACV had already set up a command post in a hanger at Tan Son Nhut Air Base, the home of the 7th Air Force headquarters, outside Saigon. This command post was designed specifically to orchestrate air operations around Khe Sanh, and throughout the entire siege Westmoreland or one of his two primary deputies, General Creighton W. Abrams Jr. and Lieutenant General William B.



Aerial view of Khe Sanh Combat Base, as seen from the east.

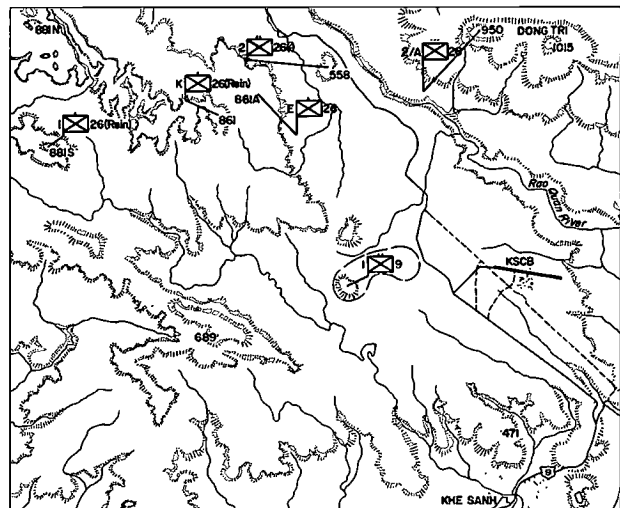
Rosson (both of the U.S. Army), manned the post, studying incoming reports and poring over maps and a sand table model of the terrain. Westmoreland decided to personally retain the clearance authority for all B-52 missions in Southeast Asia, ensuring that he would have to personally approve each and every target.²²³ With a huge SLAM operation in progress to fight such a pivotal battle for his strategy, Westmoreland also agreed to support Momyer's plan for "single management of air assets." On January 18th he cabled his intent to Admiral U.S. Grant Sharp, CINCPAC. To the Marines' relief, he was swiftly overruled.²²⁴ On January 15th the planning for Niagara was completed, and Momyer briefed MACV on the plan. The only thing that remained was for the enemy to show himself, and the floodgates holding back the deluge of bombs would be opened. The Americans did not have to wait long.

The action most frequently cited for precipitating the series of events which finally brought the siege was the 14 January ambush of a small reconnaissance patrol operating between hills 881S and 881N, the same bloody terrain over which the Hill Fights had been fought.²²⁵ Like almost every one of the other deep reconnaissance

teams sent out in January, these Marines required emergency extraction.²²⁶ This indicated that the NVA apparently decided that they either could not or would not continue to evade the Marine patrols as they made their final preparations to attack. The patrol was rescued by a force sent out from Hill 881S, but most significant was that a radio and the code sheets used to encrypt radio transmissions against NVA exploitation were left behind. This meant that even as the enemy began probing Marine defenses on 15 January,²²⁷ I/3/26 on 881S was forced to send out patrols to try and recover the classified gear and prevent a compromise. Those patrols evoked a violent reaction.

Assessing the growing threat, III MAF decided to reinforce Khe Sanh further and sent 2/26 to join the 1st and 3d Battalions at Khe Sanh on 16 January.²²⁸ This event marked the first time since Iwo Jima that the entire regiment was formed for battle as a unit.²²⁹ 2/26 was sent to establish a battalion outpost on Hill 558, holding the western

Figure 3. The positions of Marine units defending the key hill outposts around Khe Sanh Combat Base. KSCB itself was defended by 1/26, a company from 3/26, the 37th ARVN Ranger Battalion, and numerous other small units. Illustration by E.L. Wilson for Captain Moyers S. Shore II, The Battle for Khe Sanh (Washington, 1969), 50.



edge of the Khe Sanh plateau and blocking the movement of large enemy forces into the deep ravine that dove down into the Roa Quan River, right at the very edge of the combat base's northern and eastern perimeters. By the end of January, KSCB and the nearby hills were defended by a formidable assortment of units (see Figure 3). Five rifle battalions protected three 105mm artillery batteries and a 155mm battery, in addition to a 4.2 inch mortar battery, within their perimeters. They also harbored a number of tracked vehicles, including six tanks, Ontos 106mm recoilless launchers, and quad 40mm U.S. Army "Dusters."²³⁰ In addition to the huge volume of air power Westmoreland was about to make available, the defenders of Khe Sanh could also depend on 24-hour all-weather support from 16 U.S. Army 175mm guns at Camp Carroll and the Rockpile,²³¹ and Westmoreland had moved half of his infantry combat power in Vietnam northward into I Corps.

Contact is Made

From Hill 881S, Captain Bill Dabney of I/3/26 had sent out a reinforced platoon to rescue the small patrol ambushed on 14 January, which was located and evacuated to KSCB for medical treatment. He later learned from the 26th Marines that the reconnaissance patrol had left behind a radio and some of their code sheets. Dabney was ordered to recover the gear, and sent out a platoon, but withdrew his Marines after they made contact with an NVA unit. Since he would be unable to send out a larger unit with his company responsible for holding 881S, he requested permission to conduct a reconnaissance in force with his entire company to investigate just how many NVA were out beyond his perimeter, and what they were doing there. Colonel Lownds believed that the MACV and 3d Marine Division intelligence estimates were grossly inflated and that the enemy had no more than a regiment in the area,²³² so he consented to the patrol and sent

M/3/26 to hold 881S²³³ while India Company was probing for the enemy.²³⁴

On the morning of 19 January, Dabney's force of approximately 200 men moved out, but was stopped short of Hill 881N by heavy fire, and withdrew to spend the rest of the day calling in artillery, mortars, and air support to clean the enemy from Hill 881N and the saddle between it and 881S. The situation was repeated the next day, and the Marines were preparing for a third attempt when word came over the radio that Lownds had ordered a withdrawal.

Dabney was not told the reason for the withdrawal, only that he had to pull his men back into the defensive perimeter on Hill 881S without delay. It took several hours of fighting for I/3/26 to break contact, and as night approached the company withdrew under the cover of air support and artillery.²³⁵ Meanwhile, the 26th Marines headquarters bunker deep underground seven miles to the east was a flurry of activity. Just hours earlier, as I/3/26 was attacking Hill 881N, Marines on the main combat base's western perimeter had been shocked to see an NVA officer approaching the wire waving a white flag. A group was sent out to take him in, and Lieutenant La Thonh Tonc was turned over to two interrogator/translators. Disillusioned with NVA leadership and the Communist cause, he spoke freely and without duress, shocking the Marines by revealing the plans for an assault on Khe Sanh that was to commence that very night. The defector told the Marines that the 304 and 325C divisions had indeed taken final positions around Khe Sanh to recreate the success of Dien Bien Phu.²³⁶ He claimed that an NVA battalion was preparing to attack Hill 861, after which two NVA regiments would attack the main combat base with heavy artillery, rocket, and mortar support. If the first two regiments failed to take KSCB, they would be reinforced by a third.²³⁷ The incredible detail and candidness of the confession made some of the Marine

leaders skeptical, but they decided to take every precaution. As General Tompkins later said, "I decided that we would accept Tonc's information as valid, since we had nothing to lose, but much to gain."²³⁸ Word was immediately sent up the chain of command to MACV, and a helicopter was dispatched to warn the Special Forces camp at Lang Vei. The news of this imminent assault was the reason Lownds recalled Dabney's attack on 881N, fearing that his men were on the verge of being surrounded by an NVA regiment targeted on Hill 881S.²³⁹ Dense clouds closed in around the hills that afternoon, and after nightfall, word came back that Dabney's men had finally reached the safety of his perimeter on Hill 881S, and were keeping the area to their west under constant artillery bombardment. The air at KSCB was thick with ominous anticipation.

The Siege Begins

At half past midnight on 21 January 1968, almost exactly as Lieutenant Tonc had predicted, Hill 861 was subjected to a heavy bombardment. At 0100 approximately 250 NVA soldiers attacked up the hill, rushing through breaches made by sappers despite heavy artillery, mortar, and rifle fire that the Marines poured down upon them. The NVA managed to seize half the position, and were repulsed after four hours only by a combination of indirect fires called on the top of the hill, and a savage counterattack by Marines in desperate hand-to-hand fighting.²⁴⁰

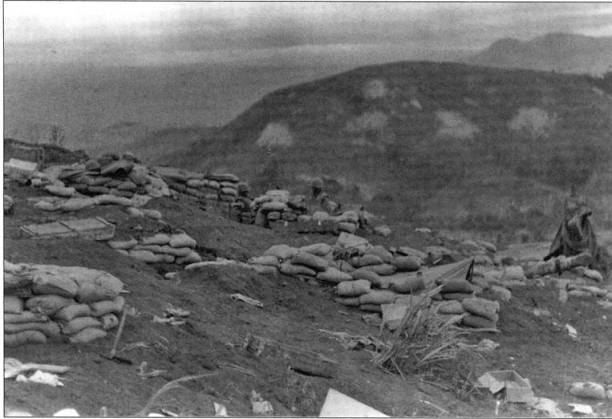
At 0530, just 15 minutes after the Marines had finally driven the enemy from Hill 861, a massive bombardment of the main combat base began. This attack, which lasted almost three hours, was a complete surprise despite Tonc's warning because it contained a significant amount of artillery, which was not considered mobile enough to join the man-portable rocket systems known to be in mountains to the west.²⁴¹ From the southern slopes of 881N a massive rocket attack was



Bunkers along the trench line that ringed the combat base. The innermost defensive wire barriers can be seen on the right.

launched, which scored a direct hit on the 1,500-ton ammunition dump on the eastern end of the runway, where the main NVA assault was expected. The impact set off a chain reaction of explosions from within the massive ammunition dump Westmoreland had been building for months in preparation for an invasion of Laos, destroying 98 percent of the ammunition available to the 26th Marines. The air was thick with shrapnel, and dangerously hot unexpended ordnance fell from the sky in showers up to 2,000 feet away from the immense crater that was created. In some places the trenches the Marines had dug behind the defensive wire were filled chest deep with unexploded ordnance, debris, and shell casings.

Secondary fires and explosions resulting from the detonation of the ammunition dump continued for 24 hours,²⁴² but most frustrating for the Marines was that in the heavy fog they could not find any enemy to return fire at. Until the NVA appeared at the wire, all the Marines could do was crouch in the bottoms of their holes and bunkers and pray that they would survive the bombardment.²⁴³ Some of them were convinced that if the NVA had mounted their assault after the ammunition dump had exploded, the enemy could have overrun the combat base.²⁴⁴



Marines of the 1st Battalion, 9th Marines at their outpost near the Rock Quarry. The small hill was adjacent to the site that had been used to produce gravel for bedding the new runway. 1/9 was not moved to Khe Sanh until 22 January, the day after the major NVA attacks began. These Marines occupied the closest outpost, overlooking both the final western approach to the combat base and the drop zone that was used for the parachute delivery of supplies.

Remarkably, the enemy infantry assault on the main combat base that night never materialized. In fact there were only two positions in the vicinity of Khe Sanh attacked by infantry on 21 January 1968: Hill 861 as previously discussed, and Khe Sanh village. As the Marine forces in and around Khe Sanh grew in size over the fall and winter of 1967, the village itself had swelled. Entrepreneurial South Vietnamese sought to exploit the increased availability of American cash by providing services that otherwise never would have been profitable in the highlands. With the addition of laundry shops, souvenir stands, restaurants, and brothels, Khe Sanh village now included 1,500 people. Alongside the Hung Hoa district headquarters were a four-man U.S. Army advisory group, and the 915th Regional Forces Company, a Vietnamese unit, as well as the headquarters of the Marines' regional pacification effort, Combined Action Company Oscar, and two of its subordinate units, CAP Oscar-1 and CAP Oscar-2. At 0100, concurrent with the assault on Hill

861, a small NVA force attacked Khe Sanh village, perhaps to further isolate the combat base. The attackers were driven back by the various allied military forces there in the early morning hours, but returned in force in the late afternoon. The defenders were prepared for the second attack, and fixed the NVA in place with machine guns so they presented a stationary target for 1,000 rounds of artillery and air support. The enemy attack was broken, but Colonel Lownds decided that the village would be untenable if the NVA made a committed effort, so he decided to evacuate it.

The Situation Stabilizes

In the initial attacks on Khe Sanh, the Americans were forced to withdraw from the village itself, and had sustained a terrible bombardment, but had succeeded in holding the combat base and all of its outposts. Now that the enemy had apparently committed himself against Khe Sanh as Westmoreland hoped, the Americans reinforced the base in preparation for the siege they believed was just beginning. Khe Sanh was most vulnerable on 21 January, the day after the initial assault, but other than a second vicious bombardment that evening, the NVA did not capitalize on the weakness created by the ammunition dump explosion.²⁴⁵ That next day, the 1st Battalion, 9th Marines arrived to occupy a hill near the rock quarry west of the perimeter (see Figure 3). Now the closest of the outposts, this position guarded the immediate western approach to the combat base, as well as some flat terrain between the hill and the base which could serve as a drop zone for parachute-delivered supplies. In addition to another artillery battery that was soon moved to the combat base, Colonel Lownds increased the strength of key outposts. Hill 861, the objective of the first NVA assault, was reinforced with a fourth platoon, while 2/26 sent a company to occupy a new defensive position on Hill 861A nearby.²⁴⁶ By the time the major movements were complete on

23 January, Colonel Lownds was in command of 6,053 men at Khe Sanh, half of whom were distributed to the various outposts in the hills. This number did not include the 400 CIDG troops and soldiers of the U.S. Army FOB-3 occupying their own defensive perimeter on the outside of, but attached to, the Marine lines on the southwest perimeter.²⁴⁷ When it was realized that the Vietnamese had made no regular military contribution to a battle Westmoreland considered so crucial to their nation's eventual victory, 318 men of the 37th ARVN Ranger Battalion were also sent in on 27 January. As with the CIDG troops, the Americans were suspicious of the Rangers' reliability, and placed them in their own defensive perimeter attached to the outside of the Marine wire.²⁴⁸

The Marines also decided to limit their patrolling activity outside these perimeters for two reasons. First, they felt the presence of large enemy forces around Khe Sanh made such patrols unwise, since they could easily be ambushed, requiring larger rescue forces to be sent out to fight a battle of attrition on the NVA's terms. With this

Two soldiers of the ARVN 37th Ranger Battalion in the defensive positions they established on the south-east perimeter of the combat base.



in mind, General Tompkins limited patrols to 500 meters distance from the combat base perimeter, where they could be observed and covered by the fire of Marines safe inside the defenses. This restriction on patrolling was supported by General Westmoreland for a second reason as well. By confining the defenders to their static defensive positions, aircraft would have maximum flexibility to attack the NVA around them. The NVA would be forced to come to the Marines if they wanted to attack, and as the enemy massed at these known points the NVA could be defeated by American air power.²⁴⁹

The NVA concentrations around Khe Sanh were presenting some suitable targets for American air power, just as Westmoreland had hoped. As early as the 22d, aircraft from all three services were attacking known and suspected enemy positions, so that by the midnight of the 23d, tactical aircraft alone reported that they had created 40 secondary explosions, 28 secondary fires, 39 NVA killed, and 5 bunkers collapsed in the area immediately around the combat base.²⁵⁰

The Fall of Lang Vei

In the first 10 days after the siege commenced on 21 January, the NVA bombarded the combat base regularly, but did not launch any other major ground assaults against the Marines. Their second major ground attack began on 4 February and came in two main thrusts: one directed toward the combat base's western outposts, and another toward the Lang Vei Special Forces Camp. The first thrust was defeated by U.S. firepower, the second was an NVA victory.

Beginning on 3 February, electronic sensors began to indicate the presence of several NVA battalions gathering near Hill 881S. At 0230 on 5 February, an artillery concentration was fired at the location where these forces were thought to be massing for attack. Hill 881S was never assaulted, but later that morning the NVA did attack



Once the heavy bombardment of the base began, the Marines who had not already moved their activities to underground bunkers quickly did so. The Marines of B Company, 3d Reconnaissance Battalion demonstrated a sense of humor upon having to abandon their former shelter.

Hill 861A without warning. The Marines on the new outpost were assisted in their defense by artillery fires designed to cut the NVA off from reinforcements, and tactical aircraft controlled by a ground-based Marine radar team. The attack was broken, and a sweep to clear the NVA off the hillside after daylight found more than 100 dead.²⁵¹ Lang Vei, the objective of the second thrust, was not so fortunate.

The Special Forces men at Lang Vei had relocated their camp a thousand meters further west to a more defensible position after the first was penetrated by the NVA during the Hill Fights of May 1967. Colonel Lownds's evacuation of Khe Sanh village after the NVA attack on 21 January placed the camp even further from allied support, since the new location was nine kilometers away from KSCB as the crow flew over some densely jungled hills, and more than 14 kilometers away by road.²⁵²

In the early morning hours of 7 February, an infantry force from the NVA 304th Division, supported by a company of PT-76 tanks hit Lang Vei. Despite a valiant defense fought without the benefit of antitank weapons, the NVA rapidly overran the camp. Some of the Special Forces survivors withdrew to a bunker in the center of the camp. A tank drove up on top of the bunker, and the NVA gathered to throw grenades inside. The survivors held tight, and were able to call for help by radio. Colonel Lownds, however, refused to send a relief force, considering such an attempt suicidal.²⁵³ The decision became the source of much inter-service bitterness, but was a wise one, considering the distance involved and the size of the NVA force that was probably waiting in hopes that just such a relief force would give up the security of the combat base to walk into its ambush. Aircraft were sent to assist, including an Air Force FAC(A) and a flareship, but their effectiveness was limited by their inability to locate the enemy in the darkness. The B-57 bombers sent also did not carry anti-personnel weapons which could be used on the NVA without penetrating the bunker and killing the Americans inside as well.²⁵⁴

As daybreak arrived, air support became more effective and the NVA attack subsided. By afternoon the survivors managed to escape the camp by exploiting the suppression created by the strafing runs of fighter aircraft.²⁵⁵ The survivors fled eastward to join the remnants of a Laotian battalion fleeing along Route 9. A rescue mission was launched, including six A-1Es, four tactical jets, and five or six helicopter gunships under the control of a FAC(A). This force located the survivors at the old Lang Vei camp abandoned earlier in the year, and provided cover for some CH-46s to deliver a relief force and pick them up. The Americans were lucky to escape as the camp was abandoned in the first major NVA success of the campaign.

Westmoreland reacted violently to this first ma-