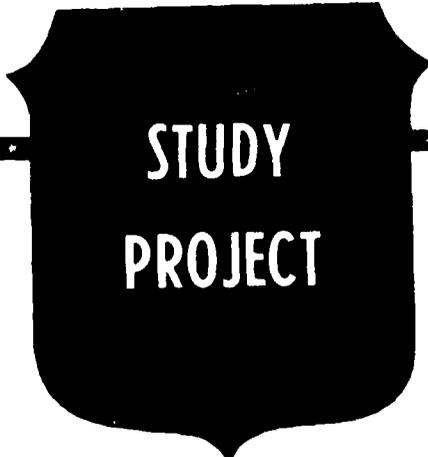


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CLOSE AIR SUPPORT: WHY ALL THE FUSS?

BY

LIEUTENANT COLONEL THOMAS W. GARRETT

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USAWC MILITARY STUDIES PROGRAM PAPER

CLOSE AIR SUPPORT: WHY ALL THE FUSS?

AN INDIVIDUAL STUDY PROJECT

by

LIEUTENANT COLONEL THOMAS W. GARRETT

COLONEL PAUL G. DAVENPORT
Project Adviser

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U.S. Army War College
Carlisle Barracks, Pennsylvania 17013
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CLOSE AIR SUPPORT: WHY ALL THE FUSS?

CHAPTER I

INTRODUCTION

One can hardly pick up a publication in the defense arena these days without seeing an article on close air support. Despite the Army and Air Force service chiefs' long standing agreement that close air support (CAS) is the purview of the Air Force, debate rages over the issue. The need to replace the aging A-10 ground attack fighter has fanned the flames of a controversy which has smoldered since World War II.

Congress, in The Defense Authorization Act of 1988, directed the Secretary of Defense to conduct an independent study of close air support, including the assessment of the feasibility of transferring the CAS mission from the Air Force to the Army.¹

The Goldwater-Nichols Department of Defense Reorganization Act of 1986 directs that the Chairman of the Joint Chiefs of Staff (CJCS) report to the Secretary of Defense every 3 years on the roles and functions of the armed forces.² In accordance with this directive and in response to the congressional call to study CAS, Admiral William Crowe, the first CJCS to render the roles and functions report, submitted the following concerning CAS:

CAS is not an issue only for the Army and the Air

Force....All four services perform the CAS function. CAS for naval operations is assigned to both the Navy and the Marine Corps. CAS for land operations was assigned to the Air Force when it became an independent service, and the Army was permitted to maintain organic aviation with relatively unspecified tasks. All four services have CAS-capable aircraft employed under joint doctrine. In this manner we have insured that CAS is available to lower-level ground commanders on a regular basis, while still providing the theater commanders the capability to focus significant combat power in a specified area. The issue cannot be whether to transfer CAS from the Air Force to the Army; it is already present in both services, as well as in the Navy and Marine Corps. The integration of fixed and rotary wing assets, which have distinctly different capabilities, provides complementing mission capability to combatant commanders on the modern battlefield. That integration plays a pivotal role in the successful implementation of both FOFA [Follow On Forces Attack] and AirLand Battle Doctrine.³

Under the new spirit of unity ushered in by Goldwater-Nichols, the word from the chairman sounded sensible. But wait - the Army and Air Force chiefs submitted a joint dissenting opinion:

The Army and the Air Force do not regard attack helicopters as CAS weapons systems. Attack helicopter units lack the speed, lethality, and flexibility to enable the theater commander to mass, concentrate, or shift air support intratheater which is a vital characteristic of CAS. We both firmly believe that the original concept of Air Force fixed-wing aircraft providing support in close proximity to friendly forces remains valid and properly defines CAS today. The respective force structures do not have equal warfighting capability nor do they perform the same missions, yet both are indispensable. This is why we have always carefully defined CAS as a function performed by Air Force fixed-wing aircraft. Therefore, we believe that the current assignment of roles and functions contained in DODD 5100.1 with regard to CAS is the optimum solution to ensure the best possible unified action on the battlefield without duplication or unnecessary expenditure of resources.⁴

On 2 November 1989, the new CJCS, General Colin Powell,

forwarded a new roles and functions report, reversing Crowe's position on CAS and supporting the Army and Air Force service chiefs.

Although the "top brass" is back to maintaining a united and traditional front on the issue of roles and functions, there is obvious doubt and debate at other levels, not only on roles, but on other CAS problems as well. At a recent lecture to the U.S. Army War College class, a senior Air Force officer, speaking on Air Force warfighting, affirmed the Air Force commitment to close air support. He stated that he was annoyed by the attacks of "all the young majors at Ft. Leavenworth" when he spoke there on the subject of close air support, but he knew that the War College had a more mature and enlightened, "joint" view of things. The lecture covered a broad range of topics, but the question and answer period was dominated by CAS issues.

Why all this energy surrounding the close air support mission? Is CAS broken? Are the customers not satisfied? How do others do it? Is their way better? Perhaps the notion of close air support is obsolete.

This paper will survey the close air support debate and offer a perspective. Historical underpinnings, including service rivalry and CAS combat effectiveness; current close air support operations, including doctrine, hardware and challenges; the "ground pounders'" point of view; the way the Marines do CAS; and the question of whether CAS has outlived its day; will be examined.

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CHAPTER II

HISTORY

Neither a detailed history of the defense unification struggle, nor the effectiveness or ineffectiveness of air power is the purpose of this study. However, a brief review of the historical backdrop against which the current CAS debate is waged is necessary for an understanding of current issues and perspectives.

SERVICE RIVALRY

Roles and functions, including close air support, have always topped the service rivalry agenda. In fact, it was the Air Force drive for independence that birthed service rivalry as we know it today.

Prior to World War II, the Army and the Navy lived separate lives, waging their own battles against "civilian isolationists, pacifists, and economizers."¹ They had separate legislation, separate affairs' committees, and separate appropriations' subcommittees. Competition between the services was almost non-existent.²

Even though the Air Force had risen to a semi-independent status during WWII as the Army Air Force (including its own member of the Joint Chiefs of Staff, Hap Arnold), the drive for autonomy was all-consuming. Almost incredibly, the AAF

formed a planning cell in 1943 (well before the outcome of the war was decided) to produce postwar plans: "not trying...to design an Air Force that would meet the dangers to United States national security. Instead, the planning was done to gain autonomy for the postwar Air Force."³

Central to Air Force thinking, both then and now, was the theory espoused by Giulio Douhet which put forth the following premises:

1. Air power can be the decisive instrument of war.
2. The decisive use of that instrument requires air superiority.
3. Achieving air superiority requires central control of air power.⁴

Central control equaled independent and autonomous; freedom to prosecute the air war as the air warriors saw fit.

The theory on which the need for an independent Air Force rested, in spite of being pushed as gospel by Air Force planners, was never proved. In fact, one could argue that it failed.

...the four years of air battles across the Channel would seem to provide about as fair a test of military theory as history is ever likely to yield. The results were largely negative. Many tens of thousands of people were burned and blasted to death; some millions of homes were totally destroyed; holocausts, like that of the three day 'fire-storm' in Hamburg, rivaling the achievement of the atomic bomb at Hiroshima, were produced; factory capacity was at times brought down and cruel stains were imposed on the minds and hearts of the combatant populations. But the traceable military results were uniformly disappointing. One can hardly doubt that all this death and destruction helped to prepare the ultimate German collapse, yet the United States Strategic Bombing Survey reported after the war that German war production increased throughout to reach its peak in late 1944, well after the ground armies were

ashore to make good the job at which the air fleets had been unsuccessful.⁵

The atomic bomb overshadowed the struggles over strategic bombing versus control of air support by ground forces. An independent strategic air force became a foregone conclusion. Once armed with their new weapon, the Air Force drive for independence became a drive for power and dominance in the post-war era and the unification of the services under one defense organization. "General Le May's statement that B-29s had rendered carriers obsolescent is the first overt act in the coming battle for funds a leading admiral warned in April 1945."⁶ An Air Force general publicly referred to the Marines as "a small bitched-up army talking Navy lingo."⁷ And the fight was on.

The stakes were high and the political fight bloody. Defense dollars were shrinking; the cold war with a new enemy was emerging; and a new, modern service was trying to take over.

The 1947 National Security Act, its 1949 amendments, and the roles and missions specified by the Key West and Newport Conferences, established an independent Air Force service and assigned it the air lift and close air support mission in support of the Army. The Navy managed to keep its aircraft as did the Marines.⁸

The competition would go on as new capabilities and technologies emerged. Which service would constitute the strategic force? Who would control nuclear weapons? Were

rockets and missiles artillery or aircraft? Whose mission was space? Each service had its own answers. These issues are beyond the scope of this paper; however, they serve to show the shrinking interest a support mission like CAS might generate within a service which was going "for the moon."

Even before WWII, ground commanders had trouble getting the Air Corps to pay attention to their needs. Despite authorization for large numbers of light liason aircraft used for communications, command and control, and artillery spotting, the Air Corps neglected air liason because of a greater interest in "more sophisticated combat planes."⁹ The Army had to rent commercial light aircraft for its 1941 maneuvers.¹⁰

The Air Force and the Army struggled over Army organic aviation. In 1956, the Air Force tried to wrest control of helicopters and helicopter training from the Army. Only after Congressional intervention, was the move blocked. However, in November of 1956, the Air Force persuaded Secretary of Defense Wilson to restrict the Army to fixed wing aircraft not to exceed a 5000 pound empty weight and helicopters not to exceed 20,000 pounds.¹¹ A follow-up Department of Defense Directive No. 5160.22 issued in 1957 "expressly prevented the Army from providing its own close air support and strategic or tactical airlift."¹²

In the scramble to dominate in the strategic deterrence game, there was little incentive to bolster lower priority functions.¹³ America's next armed conflict highlighted this

neglect.

The jet fighters of the Korean War, the F-84s and F-86s, had been conceived and constructed for air-to-air battles first and as ground support aircraft a reluctant second. At lower altitudes they burned so much fuel they had little time over the target. Their guns and rockets, designed for aerial combat, were not highly effective against ground troops. Communications between air and ground had deteriorated since World War II so that as late as the second year of the Korean War, infantry and airplane radios often could not talk to each other.¹⁴

As an aside, the Marine Corps did much better. "Marine Doctrine called for close support of ground troops by air power, so the Marine Corps had been ready for precisely the type of action the Korean War required. With Marine ground officers guiding [Marine Pilots] in, they provided exemplary close air support for their infantry."¹⁵

After the Korean War, the Air Force again pushed CAS to the back burner. As the war heated up in Vietnam, the Air Force's ability to provide adequate close air support was so bad that it prompted a Congressional investigation by the House Armed Services Committee.¹⁶ The Air Force had to borrow 25 L-19 light observation aircraft from the Army to serve as forward air controller aircraft. The Air Force had none, despite the demonstrated need from Korea. It also had to borrow A-1 "Skyraider" attack aircraft from the Navy. And it had to convert a trainer aircraft, the T-37, to an attack plane, the A-37 "Dragonfly," to carry out its close air support mission.¹⁷

The Army, in its frustration, developed the attack

helicopter and continued to refine it. As Vietnam drew down, the Army began to adapt the helicopter to the anti-tank role and started work on the Cheyenne, an expensive, high-tech attack helicopter capable of carrying 8000 pounds of external ordnance, flying aerobatic maneuvers, and achieving high air speeds.¹⁸

The Air Force got worried about its CAS role and reluctantly fielded the A-10, the only dedicated close air support aircraft ever bought by the Air Force. Cheyenne was cancelled. The Air force then tried to back out of the A-10 commitment, but Congress made them go ahead with it.¹⁹

Carl H. Builder, in an important new book on service perspectives, The Masks of War, concludes that,

...close air support has been the most consistently neglected mission of the Air Force. Flying down in the mud instead of up in the blue and taking directions from someone on the ground are encroachments upon the freedom of flight that is so cherished by airmen.

Coordinating with other airmen in a complex strike, centrally controlled by airmen, is one thing. But losing the freedom to apply air power independently to decisive ends is to lose that which pilots have striven so hard to achieve for much of the history of the airplane.

Thus, close air support will always be an unwanted stepchild of the Air Force. The job will not be given back to the Army lest it create a rival air arm; and it will not be embraced because it relinquishes the central control of air power. The AF has the dilemma of a rival in air power or a sharing of its control, neither of which is acceptable. So the Army tries to make do with helicopters.²⁰

COMBAT EFFECTIVENESS

Like the famous U.S. Strategic Bombing Survey at the end

of WWII, the history of CAS effectiveness, or lack thereof, finds its way in support of all sides of the argument depending on the author's bent. In 1989, Dr. Richard P. Hallion spent a year as the Harold Keith Johnson Visiting Professor of Military History at the US Army Military History Institute, Carlisle Barracks, PA. He produced a paper entitled "Battlefield Air Support; A Time for Retrospective Assessment" which attempted an objective historical analysis of CAS, BAI (Battlefield Air Interdiction), and air interdiction effectiveness in combat. His analysis is thorough, timely, and neutral. Relevant points follow.

BAI operations have always been of more value - as well as more extensive - than CAS operations. By its very nature, CAS tends to be 'in extremis' air support....BAI operations clearly have been more useful in their impact upon the land battle; the 'Blitzkrieg', Western Desert Campaign, the Italian Campaign, breakout across France, and the epic air-land battles of the Russian Front in 1943-45 were essentially campaigns where BAI was predominant.²²

Battles emphasizing CAS reflect its peculiar or more desperate nature:

... 'Bloody Ridge' on Guadalcanal in 1942; Hellzapoppin Ridge on Bougainville in 1943; the Naktong and Chosen Reservoir fighting in 1950; outpost, column, and hamlet defense in Indochina and South Vietnam; and siege-breaking at Dien Bien Phu and Khe Sanh. In all of these cases, CAS substituted for a lack of available artillery assets, and often, to offset huge force disparities between opposing sides.²²

Hallion postulates that "classic (non-BAI) air interdiction has proven disappointing, and of questionable value in its impact upon battlefield operations."²³ He uses

four air campaigns in four separate conflicts to make his point: Operation "Strangle" (Italy, 1944); Operations "Strangle" and "Saturate" (Korea, 1951-52); French interdiction efforts against 'Viet Minh' supply lines, 1952-54; and the long and arduous campaign against the Ho Chi Minh trail network over a decade later.²⁴

Hallion shows that command and control problems are not new, supporting his postulate that "the single greatest recurring problem in battlefield air support has been that of effecting timely strikes with satisfactory communications, control, and coordination."²⁵ He also found that "the ground-to-air threat environment has always posed a serious challenge to battlefield air operations."²⁶

Thus, Hallion states that,

Taken together, CAS and BAI have a tremendous beneficial synergy that is of potentially critical importance during specific military operations. Examples abound when effective CAS and BAI, working together, have had a devastating effect over the battlefield, particularly in situations where 'air' has been able to offset disparities between opposing forces on the ground.²⁷

A recent example is Khe Sanh, where

...intensive USAF-USN-USMC CAS/BAI strikes prevented a repeat of the Dien Bien Phu experience, and, indeed, enabled Khe Sanh to accomplish what the French at Dien Bien Phu had tried and failed to achieve: create a magnet for the attraction, concentration, and destruction of enemy forces.²⁸

Other interesting historical notes cited by Hallion include the fact that "armies traditionally fear an enemy air

force more than they respect their own,"²⁰ that "air forces traditionally view almost all their missions as contributing to the success of friendly land forces in battle,"²⁰ and that "armies and air forces traditionally bicker over the nature and control of CAS/BAI operations."²¹

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CHAPTER III

CLOSE AIR SUPPORT OPERATIONS

This chapter will look at current close air support operations and challenges including Air Force doctrine, the Army's AirLand Battle doctrine, the threat, the mission, command and control, and aircraft requirements.

AIR FORCE DOCTRINE

Doctrinally, the Air Force lists counter air, air interdiction, and close air support as its fundamental "tactical" fighter missions.¹ The counter air mission receives top priority because the gaining of air superiority allows friendly air forces freedom of action to conduct the other missions of interdiction and CAS.² Air Force writers emphasize air superiority's importance by stating that, "No country has won a war in the face of enemy air superiority....Conversely, no state has lost a war while it maintained air superiority."³

Air interdiction involves striking the "enemy's military potential before it can be brought to bear effectively against friendly forces."⁴ "These combat operations are performed at such distances from friendly surface forces that detailed integration...is normally not required."⁵

Recently, the term "battlefield air interdiction" has

come into use. BAI is defined as "air interdiction attacks against land force targets which have a near-term effect on the operations or scheme of maneuver of friendly forces, but are not in close proximity to friendly forces."⁶ Other terms are blurring the matter further. Follow-on Forces Attack (FOFA) and Joint Attack of the Second Echelon (J-SAK) are new terms that Tactical Air Command (TAC) feels are all air interdiction.⁷ Many writers, however, link BAI more closely with CAS and refer to them as a single mission called CAS/BAI. This usage distinguishes air attacks against enemy forces, that are affecting directly or are about to affect the ground battle as opposed to deeper attacks against enemy facilities, communications, and transportation systems. This distinction is important.

CAS attacks "targets in close proximity to friendly surface forces."⁸ CAS "missions require detailed coordination and integration with the fire and maneuver plans of friendly surface forces."⁹

Air forces, like all other forces, assigned in theater fight under the direction of the theater commander-in-chief (CINC). The CINC, with advice from his air component commander, apportions air forces, provides objectives and guidance, and delegates authority as he sees fit in order to execute his campaign plan. Air forces traditionally favor centralized control under the air component commander for "planning, coordination, allocation, and tasking."¹⁰ Air warriors feel strongly that air forces fight at the

operational level of war (as opposed to strategic or tactical) and fear most a situation where they "just service target lists at the tactical level."¹¹

AIRLAND BATTLE

The Army introduced its present doctrine, AirLand Battle, in 1981, and updated it in 1986. This doctrine revitalized thinking at the "operational" (theater, campaign) level of war and recognized that the fight would be simultaneously deep, close, and "rear." The Army called its new doctrine AirLand "in recognition of the inherently three-dimensional nature of modern warfare. All ground actions above the level of the smallest engagements will be strongly affected by the supporting air operations of one or both combatants."¹² The doctrine emphasizes the joint nature of modern warfare and admonishes its commanders to understand "the techniques of integrating Air Force, Naval, and Army firepower effectively in the conduct of campaigns and major operations."¹³

It is not surprising that the Army considers air forces a necessary and critical player in the execution of its doctrine. Air forces possess the CINC's major capability to conduct deep operations and epitomize agility and the ability to synchronize with their "speed, range, and flexibility."¹⁴ It is interesting that most Air Force officers are quick to remind their Army counterparts that AirLand Battle is Army doctrine, not Air Force doctrine.¹⁵ Yet, if one reads both

FM 100-5 and AFM 1-1, they will find that the section devoted to tactical air operations in FM 100-5, Chap. 3, pages 47-50, is word for word from AFM 1-1, complete with emphasis on counter-air, importance of centralized control, and the purpose and desired effects of AI, BAI, and CAS.

THE THREAT

Most of the current writing concerning CAS invariably and appropriately begins by describing the modern threat, using the central region in Europe as the worst-case scenario, and the Yom Kippur War as the last "real operational test." The incredible Soviet system of air defenses, especially at the tactical level, is well known. It consists of overlapping systems arranged in depth and covering all altitudes from the surface upwards. It integrates missiles and guns, active and passive acquisition and tracking systems, and varying size and sophistication from man-portable through automated, heavy tracked systems. It has modernized at an amazing rate and now includes known, fielded tactical missile systems numbered SA-6 through SA-19. Most of these systems can be found throughout the third world.

In the initial stages of the 1973 Yom Kippur War, the Israelis took such terrible losses in fighter aircraft that they had to abandon the CAS mission until Syrian air defenses (Soviet equipment and doctrine that is now 15 years old) could be effectively neutralized or surpressed by ground

systems. Of 109 aircraft lost by the Israelis, 61 were lost performing CAS. It went both ways: the Arabs lost 65 aircraft, out of 101 total losses, to ground AD systems.¹⁶ Angola, Mozambique, Morocco's Polisario guerilla war, the Faulklands, and Afghanistan have all demonstrated the growing effectiveness of air defense weapons even, in the hands of relatively unsophisticated forces.¹⁷

As for Europe, General John Galvin, NATO commander, states that "the Soviet air defense system is so lethal 'the only way to go through it is to fly under it at 100 feet while going 500 knots.'"¹⁸ Could NATO forces afford the kind of losses experienced in the Yom Kippur War? "Attrition at the rate of 5% reduces available force (given NATO's anticipated sortie rates) by half in 5 days, and 10% attrition cuts it by half in just 3 days."¹⁹ There is little argument that CAS in the Central Region will be costly.

THE MISSION

Beyond the threat to be faced by CAS aircraft is the plain difficulty of the CAS mission itself as executed on the swirling, nonlinear battlefield envisioned by AirLand Battle Doctrine.

Battlefields are normally confused with friend and foe intermingled. One vehicle looks much like another at firing range. Stationary tracked vehicles are especially difficult to detect - especially if they don't want to be. The acquisition task is further complicated by the smoke of battle, gun smoke, diesel exhaust fumes, and dust from exploding artillery. The

terrain itself may screen targets, particularly where it is mountainous or rolling. And under adverse weather, even with modern thermal imaging devices, a stationary target is hard to detect and recognize. From a high speed fighter, the acquisition task is infinitely more difficult.²⁰

Most CAS pilots agree that the target must be marked by some means and somebody.²¹ The pilot simply cannot fly at tree top levels, navigate, maneuver to avoid enemy defenses, keep track of friendlies, acquire enemy targets, maneuver to attack enemy targets, and live. With the proliferation of sophisticated anti-aircraft weapons in the third world, this may even be the case in the low intensity conflict environment.

COMMAND AND CONTROL

Command and control of CAS assets are as much of a problem as the threat. The Army's emphasis on decentralized execution, with units fighting the non-linear AirLand battle using initiative and the commanders' intent as guidance, makes responsive support by the Air Force methods of centralized control difficult, to say the least.²² The system may involve as many as 15 steps...

- 1) Scout detects target; 2) target is reported to the unit; 3) unit tells Tactical Air Control Party (TACP) that it needs Close Air Support (CAS); 4) TACP requests CAS to Air Support Operations Center (ASOC); 5) TACPs at intermediate echelons hear request, coordinate if appropriate; 6) ASOC coordinates with the senior ground force headquarters, which approves request; 7) ASOC calls the Tactical Air Control Center (TACC) to scramble CAS ground alert fighters; 8) TACC calls a Wing

Operations Center (WOC) to scramble the alert fighters; 9) if fighters are on airborne alert or are diverted from another mission, the ASOC will contact a Control and Reporting Center (CRC); 10) the fighters then enter a Control Reporting Post (CRP) or AWACS airspace and contact the controlling agency; 11) approaching the Contact Point (CP), the controlling agency [Airborne Warning and Control System (AWACS), Control Reporting Point (CRP), or Forward Air Control Party (FACP)] tells the fighters to contact the Airborne Forward Air Controller (FAC-A) or 12) Tactical Air Control- Airborne (TAC-A) who gives the fighters their initial briefing; 13) the fighters depart the initial point (IP) as coordinated or to meet attack time, normally requiring a call to the forward controller (ground, helo, or air FAC); 14) the forward controller gives final clearance, corrections and/or instructions for weapons delivery; and 15) weapons are expended on target.²³

How long does this typically take? One author states that if the fighters are based close enough, as little as 30 to 50 minutes.²⁴ Other former CAS squadron commanders say 2 hours from the time the "FRAG" is received.²⁵ This scenario, of course, picks up after the 24-36 hours it takes the Air Tasking Order to be developed and Air Force units are assigned their missions.²⁶

The above mission illustrates only one of the two types of CAS missions, "Immediate CAS." What about the other type: "Preplanned?" Preplanned CAS has rarely worked well because it is based on a guess of the future tactical situation, usually 24 hours in advance. Invariably, fighters show up when there are no targets; and when the time is right, the fighters are not available. It causes ground commanders to risk fighters attacking targets they would otherwise not have attacked with CAS, merely because the fighters are on station.

The FAC is another problem. Ground-mobile now because the threat has negated the flying FAC, there is only one assigned to each maneuver battalion. From the ground "his ability to assist the fighters in target location and identification (is)...significantly reduced."²⁷ Ground-based mobile communications are always limited in range and will be attacked by enemy EW (Electronic Warfare). FACs and accurate target marking are essential elements in close air support. There are no arguments on this point. Also agreed is the fact that the present FAC system is inadequate, and any improvements in aircraft have to include improvements in the FAC/fighter interface.

Integrating a CAS attack into the swirling combined arms battle is also no easy task for the ground commander and his staff. He must deconflict artillery fires, attack helicopters, and air defense fires; ensure maneuvering units aren't mistaken as enemy forces; and adjust his own plan to accommodate or take advantage of the fighters' attack, as he ensures the fighters attack the targets he most needs destroyed. His communications are also restricted by terrain and EW, as well as being overloaded with friendly information, reports, and requests. If a ground maneuver is going well, it is often easier to scrub the fighters than shut down everything so they can attack. If the ground units are in trouble, command and control is usually also breaking down, and setting up the fighter attack "by the book" may be impossible.

The airspace control necessary to get the fighters into the FLOT (Forward Line Of Troops) area is getting ever more complicated. Reinforcing artillery; rear area air defense systems; and air traffic of all kinds, including returning and transiting strike aircraft, counter air CAPs (Combat Air Patrol), Army helicopters, C³I platforms, and logistical support aircraft will have to be managed at the same time as penetrating enemy aircraft are intercepted and defeated.

THE AIRCRAFT

The question that rekindled the CAS debate was which aircraft should replace the aging A-10. The threat that must be faced and the difficulty of the CAS mission evoke varied ideas on the proper characteristics required in the ideal CAS airplane. General Robert D. Russ, USAF, Commander, Tactical Air Command, lists five factors that influence a CAS aircraft's survivability: speed, maneuverability, electronic countermeasures, force packaging, and hit tolerance.²⁸ Other authors point out that some of the factors that increase survivability also increase mission difficulty, e.g., more speed makes target identification, acquisition, and attack more difficult.²⁹ Maneuverability and heavy weapons loads are opposite concepts. Still others would add responsiveness, in terms of minimal basing requirements and rapid turn around time, reliability, serviceability, and endurance.³⁰ Target acquisition and engagement accuracy are

always cited and include automatic target hand off systems, laser location and identification systems, improved navigation systems, and better communications gear.³¹ Night and adverse weather capability are additional, generally accepted CAS requirements.³² Stealth technologies and better stand off capability are also mentioned.³³

There is little consensus on which aircraft should replace the A-10, or even if the A-10 should be replaced at all. Many like the notion of a dedicated CAS aircraft and would prefer to upgrade the A-10 or adopt the Marines' AV-8B, retaining the "flexibility and responsiveness of rugged, forward based aircraft."³⁴ Others argue that a multi-role fighter, one that can accomplish the additional tactical missions of counter air and interdiction, makes the most sense, both economically and operationally. The Navy's F/A-18 falls in this category and is already in production.³⁵

A missioned F-16 (A-16) seems to be the Air Force favorite, but an upgraded A-7, the A-7+, has also been studied.³⁶ Still others favor going all the way and including a CAS capability or variant in the Air Force Advanced Tactical Fighter (ATF) or the Navy's Advanced Tactical Aircraft (ATA) programs.³⁷ More than a few authors say the modern helicopter is the right CAS aircraft.³⁸ One point no one argues over is the cost. A fixed wing, close air support aircraft that can cope with the threat, accomplish the mission with accuracy in adverse weather or darkness, and has the command and control, navigation, and

pilot workload reducing systems necessary to rapidly and flexibly integrate itself into the battle at the FLOT, is the most expensive fighter one can buy.

IS CAS BROKEN?

In surveying the literature, the consensus appears to be that CAS is, indeed, broken. In the mid-to-high intensity environment, air defense systems in the vicinity of the FLOT have rendered our current CAS fighter, the A-10, non-survivable. The difficulties of target acquisition, low-level navigation, accurate situation awareness, adverse weather and darkness have not been overcome. The integration of air and ground forces at the tactical level is in bad shape, including the forward air controller system, communications, target location means, and responsiveness.

There is also a fundamental flaw in Air Force doctrinal thinking. The notion of fighting for the CINC at the operational level of war by "massing CAS against regiments and divisions"³⁹ sounds good, but simply can't be done. Soviet doctrine calls for breakthrough frontages for an attacking regiment to be 2 km, and for a division, 4 km.⁴⁰ Given the maneuvering requirements of a high speed, fixed-wing aircraft,⁴¹ it is impossible to "mass CAS" in this limited space. The best that could be hoped for, and all that could be realistically controlled, is what is seen in training exercise after training exercise: a piecemeal attack

by two fighters at a time. Adverse weather or darkness quadruples the air space requirement. "Massing CAS," the way the Army interprets massing forces and fires, is a physical impossibility. One can think at as grand a level as one wishes, but the fighter is a weapons system that ultimately must engage a target - tactically. One cannot continuously attack a massed Soviet division on a 4 km front with "massed CAS."

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CHAPTER IV

CUSTOMER SATISFACTION

ARMY SELF-IMAGE

The Army is the great, mass "general purpose" force. It owns few high priced, sexy weapons systems. Specializing in the human dimension, the Army is rarely pushing the frontiers of technology. As relative peace ebbs and flows, so does the strength and attention paid to the Army. Yet, if war comes, it is the Army that must bare the main brunt of it and, in the end, be the determining factor.

The Army views land combat as central to war, and closing with and destroying the enemy as central to land combat. The Infantry and Armor "mudsoldier" has the "close with" role. All other branches of the Army, as well as the other services, are in support of the mudsoldier and his decisive mission.

The soldier views the enemy army as the prime focal point of war, and all else should properly be subordinate. The soldier is impatient with the navy when the navy finds tasks that might interfere with taking the soldier where he wants to go, where the enemy camp is, and keeping his supplies coming steadily. He is impatient with the airman who wants to put a machine tool factory out of business; he wants the airman to work on the enemy tank across the valley from him. And the soldier, few men realize, is the only one of the military men who cannot do his part of the war alone....His flanks are bare, his rear is vulnerable, and he looks aloft with a cautious eye.¹

His is the ultimate commitment. The soldier generally lives in close contact with the enemy and, therefore, is in constant danger and in mostly uncomfortable conditions. He does not view himself or his men as expendable. When he engages in battle, he is usually decisively engaged - that is, he wins or he dies. He expects all those supporting him to commit themselves as fully as he has to accomplishing the mission. The soldier cannot RTB (Return to Base); he cannot stop at night or in bad weather.

ABANDONED

Although no actively serving soldier has known anything other than a separate Air Force, there is a real and strong feeling of abandonment by the Air Force in the Army to this day. The reasons for these feelings are nearly impossible to pin down, but they manifested themselves plainly as Army Aviation struggled to form itself into a branch of the Army, alongside its Infantry, Armor, and Artillery brothers. Army aviation had grown immensely during Vietnam and modernized afterwards for the full spectrum of combat. Aviators, however, belonged to the individual branches and carried the aviation skill like any additional individual skill, i.e., parachute or ranger qualification.

Proponency for aviation systems was spread across the other branches with Infantry branch developing utility systems; Artillery branch working aerial rocket and some

heavy lift systems (along with the Transportation Corps); and Armor branch championing air cavalry and anti-tank systems. Aviators alternated between flying assignments and branch assignments, and, therefore, kept a close bond with, as well as an up-to-date understanding of, the combat arms branches and their operations.

As the need for centralized aviation proponentcy and the intolerance of the officer personnel system obviated the forming of a separate aviation branch, the howls went up. The sentiment was that aviation support would once again evaporate, and the proof cited was what happened when the Army Air Corps formed as a separate service. "Those Aviators want to abandon us once more...we will lose control of them again..." were the outcries. The branch idea was killed many times, but finally approved in 1985 with many dissenters still voicing doubts that, as members of a separate branch, aviators could stay devoted to the ground commander's struggle. Feelings still run strong on this issue all, because of the Air Force experience

FOXHOLE VIEW

Few tactical commanders, brigade and below, have much confidence in CAS playing a major role in their part of the battle. First of all, no ground commander in his right mind would commit himself to mortal combat relying on a key weapons system that might not be there for one of several

reasons.

Within the current system a particular ground commander could get out-prioritized in at least three ways. First, the air-to-air battle in general or in another region would doctrinely have precedence. Second, the interdiction campaign will cut down on the sorties allocated to CAS. And finally, another ground commander may be deemed in more trouble or have a more important mission in the "operational" scheme of things.

Should luck smile on our particular ground commander, and he be allocated CAS, the vagaries of weather, time of day, and timing may further influence his ability to effectively employ CAS. If our ground commander finally hears the call of a couple of fighters as the battle rages, he has a difficult coordination drill to go through under a severe station-time constraint: shut down or shift artillery, mark friendlies, pick and identify targets...all for 4 or 6 bombs and some 30mm...maybe a Maverick.

Is it any wonder that most ground commanders have the nagging feeling that they will never see CAS, and would never count on it as a major factor even in planning? With the A-10, a CAS-only aircraft, at least someone was going to get CAS - if it was daylight and the weather was good.

REALITY VS PERCEPTION

Despite the Army "gut" feelings that the Air Force is not

truly dedicated or committed to the CAS mission, there are fully 9 fighter wings that "train full-time to do it"² and others maintain CAS as one of several missions. The pilots and airmen involved in Air Force combat duties are every bit as brave and committed as the mudsoldiers. But a "dedicated" stereotype is not the image conveyed or maintained of the Air Force by his mudsoldier brother. Fat pay incentives; big officers' clubs, golf courses and swimming pools; reams of regulations keeping "dirty" Army vehicles from being loaded onto pristine Air Force aircraft; and mission halts for "crew rest" are what the mudsoldier sees.

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CHAPTER V

THE FEW, THE PROUD, THE MARINES

If close air support is broken and the customers are not exactly satisfied, what are the alternatives? The major alternative espoused by many writers is to turn the mission back over to the Army and do it like the Marines.

MARINE AIR SUPPORT

The Marine "air force" includes aircraft covering the entire tactical spectrum: helicopters of all types, including attack helicopters; fixed wing fighters; and airlift/aerial refueling assets. The large number of fixed wing fighter aircraft owned by the Marines are justified by the "lightness" of Marine ground forces and their lack of heavy artillery or other fire support means.²

Examining Marine Air doctrine shows that it is quite similar to that of the Air Force, e.g. establishing air superiority is first priority, and centralized control with decentralized execution is desirable. There is one noticeable exception - the Marines emphasis on close air support. Rather than a last priority mission, CAS is the main mission, with air superiority deemphasized but still a necessary prerequisite to both amphibious operations and CAS, as well as other air operations.² FMFM 5-1, Marine Aviation,

begins with the following quotation:

Alfred Cunningham, Marine Corps aviator number one, remarked, 'the only excuse for aviation in any service is its usefulness in assisting troops on the ground to successfully carry out their operations.'

The Marines operate as a combined arms force, with their basic fighting organization, the MAGTF, described in FMFM 5-1: "Ground and air elements constitute a single weapon system- the Marine air-ground task force."⁴

All marines attend the same basic schools and indoctrination whether they are pilots, infantrymen, or logisticians. They wear the same uniform, share the same customs and traditions, and must be regarded as a highly cohesive group.

One veteran Marine, Ace fighter pilot, stated that "we are hyper about making sure our aviators believe and understand the ground commander is key. Every Marine is trained as an infantryman first. Through shared hardships and continuous training together, we stay focused on one mission."⁵

The Marines' claimed need for such a robust air support system is suspect. Naval air could provide required support until the shore situation was stable enough to bring in Air Force TAC air. Lack of artillery support is made up for to some degree by naval gunfire support. Certainly, artillery is cheaper to buy and support and easier to move than jet fighter aircraft and their necessary support systems. The reason the Marines maintain the air capability they do is the

same reason any commander would if allowed to - dedicated, flexible, far-ranging,, potent, reliable, organic combat power that fights (and wants to fight) your fight - not prosecute an independent air campaign or stay aloof at the "operational level."

WHAT'S THE DIFFERENCE?

The Marines actually employ CAS in the same basic manner as the Army and Air Force. They need air superiority, suppression of hostile air defense, and marking of enemy and friendly units. They have both preplanned and immediate missions. And they would like decent weather and expect prompt response. The only real difference is that the Marines constitute a single service, combined arms organization employed using a single doctrine, set of regulations, manuals, and procedures, and sense of mission and priorities. Common training, customs and traditions, and service perspective add to Marine air-ground cohesion. With few roles and function constraints, Marine combat developers and force structurers are free to develop systems and tailor air-ground forces for the greatest combat effectiveness rather than worry about whose "turf" a particular system belongs to. System interoperability is also assured. Economies, in terms of liaison requirements and support systems, are also realized.

PASSING CAS

More than a few authors, many of them Air Force, have advocated transferring CAS to the Army.⁶ Some let the Army use fixed wing aircraft, others transfer the mission and see it performed by Army helicopters. To transfer a role or function and then restrict the systems with which to best carry out that role or function is not supportable, and smacks of the worst form of institutional turf protection.

If CAS were unloaded by the Air Force, it would relieve them of a dangerous and low priority mission. It would also save them money. As we have seen, a CAS fighter is the most expensive fighter aircraft there is. The systems necessary to effectively command and control CAS in the high threat environment are also going to be costly in both hardware and personnel. The notion becomes more attractive still as air commanders, operating on broad mission guidance from the CINC, pursue their independent air campaign at the "operational level," leaving ground commanders to their tactical troubles.

The benefits to be derived from the Marine system apply to all tactical air missions, not just CAS. These benefits are organizational effectiveness benefits, not weapons system capability enhancements. If CAS were the only mission passed to the Army, issues of airspace control, basing, anti-air responsibility, and a host of other problems would only add to the present frustration. The new debate would be CAS

verses BAI, who is in control beyond the fire support coordination line (FSCL), how deep can on Army deep attack go without being interdiction, and on and on. Passing CAS to the Army is not a solution. The alternative must go all the way and pass all tactical air support to the Army. That is the Marine way.

LET'S BE PRACTICAL

It sounds good. The Army tailors itself as an independent, self-contained, combined arms, land fighting force (Marine style), capable of completely owning and fighting a land theater of operations. The Air Force becomes the "strategic force" (bombers, missiles, inter-theater airlift, and strategic reconnaissance); as they pursue space systems and other technological frontiers on which the Air Force has always sought leadership. It fits nicely their service "persona."

But, is it in the Army's interest to take over CAS, much less all of tactical aviation? No. The Army cannot afford the force structure it desires now, nor the modernized tanks and helicopters it needs. The size and expense of CAS, not to mention all of TAC, is enormous - aircraft, pilots, mechanics, bases, training centers, simulators, ranges, research and development, and more. The near term would see more force structure and dollars to support a transfer of roles, but as the Air Force opened new frontiers and pursued

these with the effectiveness they have always shown in garnering budget support for their systems, the pie would eventually be back to a division of thirds. The trade-offs and compromises necessary to support an Army Tactical Air Command or even just a CAS apparatus would result in an overall loss in combat power - probably a significant loss as land formations were traded off with fighter wings. The Army will clearly end up with more forces in support of the land campaign if it makes the Air Force fulfill its assigned roles and functions, and meet the Army's CAS requirement.

Is it in the Air Force's interest to give the CAS mission to the Army? In an era of shrinking defense dollars and emphasis on joint service operational capability, the CAS role, especially if a multi-role fighter can be wrangled as the replacement to the A-10, will preserve Air Force force structure and even justify more "high tech gizmos" for their aircraft. The same command and control systems that are needed to upgrade CAS capability will also upgrade the capability of the more favored missions of BAI, AI, and counter air. It would not appear to be in the Air Force's interest to pass CAS.

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CHAPTER VI

IS CAS OBSOLETE?

With the ever more lethal air defense threat, the historical conclusion that BAI, rather than CAS, has been the most effective, the ever-escalating costs of the CAS system, the increasing sophistication and capability of helicopters, and other changes the future might bring, one must ask if fixed wing close air support is obsolete.

ATTACK HELICOPTERS

There are numerous eloquent arguments in the literature for the CAS function to be handled by the Army's organic attack helicopters.² Helicopters have some clear advantages over fixed wing fighter aircraft. They can more effectively use terrain to mask themselves from detection and enemy weapons, although they must generally expose themselves to employ their own weapons. This last problem is partially offset by the increasing range of stand-off weapons systems. At the present time, helicopters have a decided edge over fixed wing aircraft in night and adverse weather conditions. Target acquisition is easier from a helicopter and enhanced systems are currently being fielded. Basing requirements and support systems are lean and flexible for helicopters as compared to jet fighters. Helicopters can mass, in the

tactical sense of the word, whereas, high speed, fixed wing aircraft simply cannot. In general, a modern helicopter is cheaper than a full-up CAS capable modern fighter.

The organizational effectiveness gained by single service forces as discussed in the previous chapter concerning the Marines, accrue to Army attack helicopters. The Marines, however, have their choice of systems and use both. Why not just helicopters? Helicopters do not have the speed, range, or load carrying capability of fixed wing fighters. Helicopters are more efficient tank killers, but cannot perform strike, interdiction, or defensive air operations on a par with fighters, if at all.

The air defense threat at the FLOT is equally tough for both types of aircraft. Although the helicopter can mask and "sneak and peek," it is more vulnerable to small arms, artillery, and even tank main gun fire. Mock battles at the NTC (National Training Center) have shown that attack helicopters used "head to head" against enemy forces at the FLOT to be ineffective. When properly employed, that is, used as maneuver forces to attack the enemy flanks and rear or in depth, their effectiveness increases dramatically.

Attack helicopters are not considered CAS in the Army's view. They are not even considered fire support. Attack helicopters are found in only two types of units in the Army: attack helicopter battalions and cavalry squadrons or regiments. These are combat arms maneuver formations and Army doctrine is absolutely clear on that point despite the

occasional artilleryman that still wants to count them as flying artillery. Hallion's history of air support correctly points out that the attack helicopter is "an airborne armored fighting vehicle, and in intent and purpose, is more closely related to the tank than to the airplane."²

FUTURE SYSTEMS

Work on new weapons never ends, and efforts to enhance the close air support system are ongoing. One joint Army/Air Force system, JSTARS (Joint Surveillance and Target Attack Radar System), currently under full-scale development, will aid targeting and, along with JTIDS (Joint Tactical Information Distribution System), command and control.³ This capability will help commanders set priorities, decide how to attack enemy forces, and concentrate the right combat power, but will do little to alleviate the difficulties associated with the execution of the actual CAS mission. It offers potential substantial improvements in BAI effectiveness.

Some talk of the "autonomous fighter," capable of "penetrating, surviving, and prevailing in the lethal arena of the mission objective unaided by support forces."⁴ It would

...provide the pilot with: all-aspect awareness provided by long-range radar and highly accurate inertial navigation systems; all-aspect attack modes using air intercept missiles with multimode sensors and precision guided munitions with significant stand-off capability; and all-aspect protection modes with the Airborne Self Protection Jammer, auto radar warning receivers and chaff/flare dispensers and self-protection missiles. It

would have a long combat radius range and assured, secure communications capability."

Beyond "souped-up" fighters, the services are getting heavily involved in RPVs (Remotely Piloted Vehicles) or UAVs (Unmanned Aerial Vehicles." UAVs have great promise as weapons, weapons platforms, intelligence gathers, sensors, target designators - you name it. They can be cheap compared to the "autonomous fighter" and its pilot. Pilots can be as expensive as aircraft and, as Germany found out in WWII, are not nearly as replaceable. UAVs can have pilots, although not directly on board, and a little imagination can see a pilot launching one or more UAV "droids" from his "mother craft" to find and designate targets which the pilot engages with stand-off weapons, also launched from the "mother craft."

The battlefield is not getting safer. Lasers are proliferating and, although a laser may not be able to shoot down an aircraft yet, pilots have already been blinded. Laser-safe glasses and goggles can deal with only one or two frequencies of laser energy before they are so coated that one can't see through them.

The Army's modernization program is concentrating on weapons and other systems with greater range, allowing deeper targeting and attacks, MLRS (Multiple Launch Rocket System), ATACMS (Army Tactical Missile System), and SADARM (Sense And Destroy Armor) to name a few. The emphasis is on "smart," "brilliant," and "genius" weapons, all trying to achieve

greater depth, stand-off, and probability of kill.

At some future date, close air support may indeed become the least economical means for providing fire support, but that day is not here. CAS capability, even in a multi-role aircraft, will always be an attractive, flexible option package.

POLITICS

What implications do the Conventional Forces Europe (CFE) negotiations and defense drawdowns, as a result of budget cuts, have on this issue? Less fighter aircraft in the aggregate is one obvious outcome. Less aircraft would seem to favor a multi-role fighter over a single mission CAS aircraft. The Air Force might even change its stance and opt to give away the CAS mission so it could afford the B-2 and the ATF. Talk of stopping the F-16 buy to save ATF is already being heard. Does that mean the A-16 is no longer a CAS option; or would the Air Force retrofit mission packages on existing F-16s? That ploy might save some force structure.

If the disappearing Soviet threat in the central region is the reason Defense spending can be slashed, and contingency forces and other regions grow in priority and interest, has the CAS requirement changed? Our last large scale LIC (Low Intensity Conflict) encounter brought back the prop-driven A1-E, produced the low cost A-37, and had much to

do with the design of the A-10. With a less dense air defense threat, isn't the existing A-10 just what the doctor ordered?

These changes definitely play in the broad CAS debate, but none of them render the close air support mission obsolete. The battlefield endlessly grows in lethality, depth, and speed. The attack jet aircraft characterized by "speed, range, and flexibility" has not seen its last close air support mission.

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CHAPTER VII

A PERSPECTIVE

Roles and functions allocations over the years have not followed any specific logic other than a series of compromises to give each service a piece of the action. The Navy, after all, has its own "army" and "air force." Demetrious Caraley's conclusion is as valid today as it was 20 years ago:

The real, continuing, and underlying differences over defense organization have not predominantly concerned technical proposals for advancing in any clear and direct way consensual goals like 'combat effectiveness', 'economy', 'efficiency', or 'interservice harmony.' They have instead involved the critical issue of how influence over the various types of key strategic, operational, and administrative (particularly weapons development and procurement) decision making within the military establishment is to be distributed among the various officials and echelons.¹

Service roles and functions, although debated, have remained stable for several decades now, and as Builder points out,

...whatever the logic or merit of revisiting the Key West Agreements, it is a simplistic answer to an enormous problem now rooted in the nation's institutions, history, and responsibilities. Though realigning the service roles and missions may be the 'right' approach, it almost certainly is not the workable approach...²

A little service rivalry has some benefits. Competition always fuels creativity and generates options. Rather than

duplication, it may produce weapons systems and warfighting capabilities that add depth, robustness, and redundancy, increasing overall effect.

Earlier chapters have shown that maintaining the current roles and functions is in both services' best interest. Helicopters alone are not sufficient and passing CAS to the Army is simply not practical.

In all spectrums of conflict, close air support is still a viable and important mission, although it is increasingly blurred with BAI. The systems necessary to improve the CAS system, both in terms of aircraft and of command and control, perhaps enhance BAI capability even more than that of CAS. Given AirLand Battle doctrine and Army fire support weapons in development that add power, depth, and accuracy to the ground commander's arsenal, BAI appears to be emerging as a more important mission than CAS. Historically BAI has had more effect than either CAS or traditional air interdiction and, taken together, these arguments favor a multi-role fighter as the next CAS aircraft.

Fixing CAS is going to be an expensive proposition. But the systems, JSTARS, JTIDS, etc., have applications for both services beyond CAS and, with joint support, have a better chance to reach fruition.

So, the "top brass" is right. Our current position and efforts make the most sense. However, there is still one glaring deficiency.

The Air Force needs to mount an all out attack to break

the perception that it doesn't care to "get dirty" helping its Army brothers down at their lowly tactical level. As long as this perception exists, there will be calls to change roles and functions, ill-will, and plain open distrust. Even the Congress sees a perceived disdain on the part of the Air Force for CAS. Why else would they order a study on a change of roles? Get down, Air Force, get funky! We want you; we need you; but we don't necessarily want to have you.

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