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14. ABSTRACT

The mission of Close Air Support is almost as old as aircraft itself. Each respective service adopted its own respective procedures and C2 structure in accordance with their current doctrine. Since Goldwater-Nichols, the services have tried to align their doctrine and procedures and have succeeded to a point.

With technology expanding the capabilities of our air and ground forces, our JCAS doctrine is still behind where we should be as a fighting force. JCAS symposiums have helped align procedures, but the attitudes and mindsets of some services go much deeper than a piece of paper.

Now is the time to truly transition to a JCAS force and give our fighting units all the tools they need to succeed on the battlefield.

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NAVAL WAR COLLEGE
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JCAS: Psst, The "J" Stands for Joint

By

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A paper submitted to the faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.

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May 17, 2005

Abstract

The mission of Close Air Support is almost as old as aircraft itself. Each respective service adopted its own respective procedures and C2 structure in accordance with their current doctrine. Since Goldwater-Nichols, the services have tried to align their doctrine and procedures and have succeeded to a point.

With technology expanding the capabilities of our air and ground forces, our JCAS doctrine is still behind where we should be as a fighting force. JCAS symposiums have helped align procedures, but the attitudes and mindsets of some services go much deeper than a piece of paper.

Now is the time to truly transition to a JCAS force and give our fighting units all the tools they need to succeed on the battlefield.

If CAS performance is an overall indicator of joint performance, then given our performance in Operation ANACONDA, we did not execute as an effective joint force. Poor CAS performance resulted in a lack of adherence or even an understanding of joint doctrine. Given the prospect for continued application of joint combined arms in the War on Terror, we must examine this performance and commit to change – fast. To change for the better, we must agree to build the operational architecture that's provided for in Joint Pub 3-09.3 – JTTP for Close Air Support.[1]

Over the past six decades, the basic doctrine and procedures of Close Air Support (CAS) have changed very little, however, with the continued push for "Jointness" among the services, some basic standardization still needs to be refined. Operations such as Desert Storm, OEF and OIF have seen a dramatic increase in CAS operations and fratricide is still happening. The advent of 21st century technology still does not replace the "man in the loop" that has made CAS the go to "weapon of choice" for reaching the objective. Joint CAS (JCAS) Symposiums are ongoing since 1999, but there are still rifts among the services and some are still trying to hold onto their "beloved" procedures, claiming, "It works for us, why change?" Now is the time to mow down the confrontational mindsets that have plagued us since WWI and establish standardized procedures and training syllabi in order to align one of the most demanding warfare missions in both the air and on the ground.

INTRODUCTION

Since man first had the crazy notion to drop ordnance from aircraft, CAS has been hotly debated as to whether or not it's a valuable and worthwhile tactic to help an operation reach its objective. Doctrine on how to interact aircraft with ground troops was being crafted as early as WWI, but the difficulty was how to succeed without destroying

[1] John Jansen. "The Tower of Babel? Joint CAS Operations in Afghanistan." Infantry, Fort Benning (January/February 2004).

each other. It has been debated on when CAS was officially employed or "born," but the Marine Corps claims their first "official" CAS missions were flown in 1931 at Ocotal, Nicaragua while Sandinistas were attacking a 37-man Marine garrison.[2] Marine aviation and ground units had thought of themselves as separate units up until that point, but their mutual support of each other during that operation grew an understanding of each other's weaknesses as well as an appreciation for each other's strengths.

The Army and the Army Air Corps had their own problems pre-WWII. Some blame the lack of CAS between the two on the Air Corps' preoccupation with strategic bombing. Others thought that emphasizing strategic bombing would give the Air Corps much needed money in upcoming budgets. Primarily, the rift is thought to be the long held belief that the Army Air Corps should be separate from the Army. Any notion of supporting the ground troops would emphasize dependence on one another, thus losing their argument for separate services. During the interwar period, CAS doctrine was given lip-service, but it was difficult for the air and ground officers to agree on C2, employment and procedures.[3]

The biggest disagreement at this time between both air and ground officers from all services was the poor quality or lack of communication between the two. To be on the safe side, the Air Corps would stick to preplanned missions that would keep them far from the ground operations. Where this would alleviate the problems with communication, it did little to support the armies on the ground and was basically interdiction vice CAS. Another problem with the preplanned missions was that they were

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[2] W. E. Sullivan Jr. "History and Development of Close Air Support." Marine Corps Gazette, Quantico (November 1956).

[3] Garner Johnson. "Forgotten progress: The Development of Close Air Support Doctrine before World War II." Air Power History, Washington (Spring 1999).

planned at least 24 hours in advance. The battlefield can change considerably in that timeframe and, at times, the aircraft would show up to their target only to find that it had already been overrun by their own troops and would have to abort to avoid fratricide. Many times the aircraft would return to base with his bombs still intact or have to drop them on a remote "dump" target.[4]

Much debate ensued with the fledgling Air Corps Tactical School (ACTS) in how air-to-ground operations in close proximity to ground troops were to take place. The first doctrine was published in 1940 in Field Manual (FM) 100-5. In it, the Army conceded to the Air Corps that before they would get close support, there had to be air supremacy and the Air Corps would only attack rear targets or targets beyond the Fire Support Coordination Line (FSCL). But how would the Army be able to identify friendlies and hostiles? Only one aircraft per squadron carried a radio and even that was of poor quality. Wing aircraft would have to follow the lead with the radio and drop on his marks or explosions. The Army adopted visual signals that could be seen from below 4,000 feet identifying where the enemy was located, but it was still largely up to the pilot where he would drop his ordnance.[5] On the outset of WWII, the combined training that involved CAS would be an afterthought as strategic bombing became the priority. "Combined training was essentially for close support. With the massive expansion of the Air Corps in the 1940-1942 period, joint training was simply impossible."[6] It's not that the Air Corps neglected the Army; there was just not enough training in this area that would

[4] Garner Johnson. "Forgotten progress: The development of close air support doctrine before World War II." Air Power History, Washington (Spring 1999).
[5] Ibid.
[6] Ibid.

make company commanders comfortable having aircraft drop ordnance in close proximity to their position.

The Navy and Marine Corps had greater success. Marine aviators adopted the principle that "close support aviation is only an additional weapon to be employed at the discretion of the ground commander."[7] Towards the end of the war, the Marines employed aviators with the ground troops as Forward Air Controllers (FAC) and had the greatest successes at Iwo Jima and Okinawa. The communications between ground commander and FAC were now instantaneous, therefore the FAC was able to relay to the aircraft (more were equipped with radios by now) precisely where to drop their ordnance for the most effective use of CAS to date.[8] Just prior to the war in 1940, the Marines published their landing force manual No. 8 that states "Close air support is air action against hostile surface 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."[9] This statement is still valid and active in today's manuals (with minor variation), including the JCAS bible: Joint Pub 3-09.3.

This new doctrine lead to much more complicated and in-depth Command and Control (C2) such as a Direct Air Support Center (DASC) which allowed tighter control of aircraft flying in and out of the combat zone and greater utilization of the FACs by "decentralizing execution and centralizing control."[10] The DASC was also a great bomb damage assessment (BDA) tool for relaying destroyed targets to headquarters. The

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[7] W.E. Sullivan Jr. "History and Development of Close Air Support." Marine Corps Gazette, Quantico (November 1956).
[8] Ibid.
[9] Ibid.
[10] Fred A. Allison. "Help from Above: Air Force Close Air Support of the Army, 1946-1973." The Journal of Military History, Lexington (October 2004).

Tactical Air Control Center (TACC) and Fire Support Coordination Center (FSCC) were also adopted for integration of sea-based aircraft, and artillery and naval gunfire support respectively.

Other considerations as aircraft became more and more high-performance were time and space factors.[11] Jet aircraft with large payloads of ordnance needed more room to maneuver at holding points and in the target area.[12] The increasing speeds and turning radii of aircraft required longer distances to run-in from the initial point (IP) to the target in order to allow the pilot a better opportunity to acquire the target. Putting time and space together is difficult for the FAC as he must think three dimensionally between the fires from his artillery and aircraft in order to deconflict them as well as separating those fires by time, altitude, or lateral separation.[13]

THE PROBLEM

In 1994, the Air Force stated a "declining need for CAS" and recommended the "elimination of CAS as a primary responsibility for the Air Force and the Navy."[14] This would leave the Marine Corps as the primary provider of air support for the ground commander. Fortunately, cooler heads noted the importance of CAS to the overall mission of the US and its forces in accomplishing the US objective in any campaign or operation.

So why the differences between the services on such a complex and demanding mission such as CAS where fratricide is high and the margin for error is so low? There

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[11] Milan N. Vego. Operational Warfare. 2000. pp. 47-77.
[12] W.E. Sullivan Jr. "History and Development of Close Air Support." Marine Corps Gazette, Quantico (November 1956).
[13] Joint Tactics, Techniques, and Procedures for Close Air Support (CAS). Joint Pub 3-09.3, Washington, DC: 1 December 1995. pp. V8-V12.
[14] David Keithly. "Revamping Close Air Support." Military Review, Fort Leavenworth (March/April 2000).

are many theories. The Army and Air Force continue their debate over who ultimately is responsible for the aircraft in close proximity to ground troops. Each wanted their own control, thus they adopted differing C2 and terminal control procedures.[15] Marine Corps aviation's primary job was support of the ground scheme of maneuver and that involved CAS. Other than mild disagreements among terms and communications, the USMC was much further along than its service counterparts. The Navy has worked in close concert with the USMC and has, for the most part, adopted Marine Corps doctrine into their CAS procedures. Figure 1 demonstrates the complexities of differing C2 agencies per service. A Navy aircraft participating in an Army exercise has the potential for confusing both aircrew and ground units unless both are briefed and aware of these differences in name and procedures.

A big reason CAS is so different among the four services is that each service puts a different emphasis on CAS. The Army has in the past and continues to want air assets to control to advance their mission. Primarily, the Army controls rotary-winged aircraft as that's what they primarily fly. The other three services work less with the Army and, when the time comes, can be a little rusty on CAS with Army aircraft. A personal experience came at an "Air Warrior" detachment at Nellis AFB in 1994. I was flying an A-6E on a high threat CAS mission. Flying at low altitude, communications were poor due to the terrain. Instead of a 9-Line brief that Naval aircraft are used to, the Air Force Air Liaison Officer (ALO) modified the standard 9-Line and omitted offset information which caused us to come dangerously close to a certain restricted area near Nellis. This

[15] Fred A. Allison. "Help from Above: Air Force Close Air Support of the Army, 1946-1973." The Journal of Military History, Lexington (October 2004).

could have been avoided had the controller used standard communications or even plain language describing the hazards.

COMPONENT AIR COMMAND AND CONTROL AGENCIES FOR CLOSE AIR SUPPORT

United States Air Force	United States Army	United States Navy	United States Marine Corps	Special Operations Forces
Theater Air Control System	Army Air-Ground System	Navy Tactical Air Control System	Marine Air Command and Control Stysem	Air Command and Control
Air Force Air and Space Operations Center		Tactical Air Control Center/ Tactical Air Direction Center	Tactical Air Command Center/Tactical Air Direction Center	Joint Special Operations Air Component
	Battlefield Coordination Detachment	Naval and Amphibious Liaison Element	Marine Liaison Officer	Special Operations Liaison Element
Control and Reporting Center		Fleet Air Warfare Coordinator	Tactical Air Operations Center	
Air Support Operations Center		Air Support Coordination Section	Direct Air Support Center	Special Operations Command and Control Element
	Fire Support Element/Army Airspace Command and Control	Supporting Arms Coordination Center	Fire Support Coordination Center	Special Operations Command and Control Element
Tactical Air Control Party			Tactical Air Control Party	
Forward Air Controller (Airborne)		Forward Air Controller (Airborne)	Forward Air Controller (Airborne)	
Tactical Air Controller (Airborne)		Tactical Air Controller (Airborne)	Tactical Air Controller (Airborne)	
Terminal Attack Controller			Forward Air Controller	Joint Terminal Attack Controller qualified special operations personnel

Figure 1[16]

The Marine Corps trains to CAS as a primary mission. In fact, they incorporate CAS into their training at the smallest unit levels. According to Col. Dave Brown, joint test director for the JCAS/JT&E office, he observes that "for the Army, CAS is an

[16] Joint Tactics, Techniques, and Procedures for Close Air Support (CAS). Joint Pub 3-09.3, Washington, DC: 1 December 1995. p. II-3.

afterthought, and for the Air Force, CAS is not a primary training objective."[17] He also found "that most people that execute CAS lack knowledge and understanding of what the joint and service TTPs (tactics, techniques, and procedures) say. I think there are multiple instances of concepts incorrectly applied." Another good example of this is what Air Force Chief of Staff John Jumper said of Operation ANACONDA in Afghanistan, "Doctrinally, we were not prepared for this. The Air Force, for example, is re-examining policies that restrict trained forward controllers to large ground units. Operation ANACONDA, a battle across Afghanistan's Shah-e-Kot valley, relied on the rapid movement of small units in mountainous terrain. We could have called more controllers forward and dispersed in smaller units."[18] This is something the Marine Corps has trained to, but the Air Force only kept their controllers in larger units.

The US Joint Forces Command (JFCOM) has taken the lead in integrating all the US forces and standardizing all facets of CAS into a JCAS manual known as JP 3-09.3. LCDR McWherter, lead at JFCOM, acknowledged that, "in the past, procedures vary from service to service, leading to unnecessary confusion and increased risk of fratricide on the battlefield. Even in Iraq and Afghanistan, US aircraft have attacked US and coalition ground troops by mistake."[19] Efforts are underway not only at JFCOM, but at all service tactical weapons schoolhouses to integrate doctrine and procedures into one living document that all services can adhere to, but there are roadblocks to this seamless transition.

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[17] Nick Jonson. "Better equipment, training needed for close air support, official says." Aerospace Daily, Washington (June 25, 2003).
[18] Stephen Trimble. "CAS role damaged by staffing, training structure, Jumper says." Aerospace Daily, Washington (February 27, 2003).
[19] Harold Kennedy. "Military Steps Up Training For Close-Air Support." National Defense, Arlington (December 2004).

The General Accounting Office (GAO) did extensive research on how well the services are doing with respect to JCAS and "equipment and interoperability issues along with an investment strategy to ensure service (CAS) equipment is interoperable and meets valid joint requirements."[20] Some of their findings point to a lot of parallel efforts on the part of each service and some minor consolidation would go a long way toward true "jointness." Each service has acquired digital transmission systems for passing data via link, but some do not have the capability to transmit to other service platforms. These digital systems would be valuable for passing information (9-Lines, target information, hazards, etc.) back and forth with much more accuracy than voice or visual communications thus reducing error or misinterpretation. Another problem included targeting systems which FAC and FAC (A) (FAC Airborne) controllers utilize to identify targets visually for the attacking aircraft. There are currently six different laser rangefinders to determine target coordinates. "As a result, the services are procuring a variety of systems independently and may be missing opportunities to achieve cost benefits from joint purchases," wrote the GAO.[21]

Another GAO report noted differences in the controller certification programs given by the different services. First, the Navy and Marine Corps require their controllers to practice and qualify controlling a variety of aircraft, including rotary-wing. The Air Force does not require rotary-wing aircraft control. Second, the Navy and Marine Corps practice coordinating live fires from artillery and naval gun fire, but the Air Force

[20] Marc Selinger. "DOD seeks more Jointness in Close Air Support equipment." Aerospace Daily, Washington (June 3, 2003)

[21] Ibid.

requires the Army to coordinate live fires for them.[22] This is critical if an Air Force A-10 FAC (A) is in support of a Marine Corps ground unit with Navy F/A-18 and F-14 aircraft under his control, the FAC (A) would have a difficult time coordinating live fire with a Marine Corps artillery unit if he has not been trained in "Call for Fire" terminology as well as unfamiliarity with capabilities and expectations for Navy strike aircraft.

Current CAS doctrine is also not keeping up with technology or thinking ahead to the next war. The near-term threats are generally rogue nations or insurgent uprisings that have relatively inexpensive IR or radar surface-to-air missiles (SAM) and light anti-aircraft artillery (AAA). The US has responded by developing more stand-off weapons in order to keep friendly aircraft out of the enemy weapons engagement envelope. The problem lies in the ability for the controller to clear the aircraft to drop his weapons on the target. Many of these new technology weapons must be released well behind friendly positions in order for it to be successful against enemy targets and this is being called beyond visual range (BVR) CAS. The rules of BVR CAS should be developed for each specific theater the US expects to fight, but it shouldn't limit our ability to fight any type of conflict from peacekeeping to major regional conflict. "Doctrine can't and shouldn't be experimental. It shouldn't be written to explain what we might potentially be able to do ten years from now, but it should reflect what we can do today in simple, universally understandable terms."[23]

Another technological devise under development is the JTF wide area relay network (WARNet). WARNet is designed to work with existing Link-16 and VRC-99

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[22] Harold Kennedy. "Military Steps Up Training For Close-Air Support." National Defense, Arlington (December 2004).

[23] Michael Franzak. "Rethinking Close Air Support terminal control procedures." Marine Corps Gazette, Quantico (March 2000).

technologies and will greatly enhance all players' situational awareness (SA) in the CAS arena. What the CAS players will find on their displays is identification of all friendly forces both on the ground and in the air. In addition to the friendly displays, known hostile positions and the attacking aircraft's position with an engagement (dashed) line connecting his aircraft with his designated target. An added feature will activate a "danger close" warning which tells the pilot he is dropping ordnance in close proximity to friendly forces. It's possible that the release of his ordnance will be inhibited if the position the pilot intends to bomb is too close to friendlies, thus preventing a possible fratricide.[24]

On 05 December 2001, 3 SOF soldiers were killed and 20 injured in Afghanistan when a B-52 dropped a 2,000 pound joint direct attack munition (JDAM) within 50 meters of American Forces and opposition fighters.[25] Incidents like this happen in every major conflict. With the relatively recent use of GPS weapons in conjunction with CAS, accurately acquired mensurated coordinates are a must. Just a few feet in elevation or a few hundredths of a degree off in coordinates can mean the difference in hitting the enemy or a fratricide event. Many elevations in Afghanistan were estimated due to poor charts or unreliable elevation equipment.

Although Operation ANACONDA was seen largely as a success, a post-operation symposium noted some substantial flaws in relation to JCAS and its supporting efforts. The traditional airborne C2 communications (ABCCC) platform for both the AF and Marines is the C-130, but the role was given to inexperienced AWACS crews primarily because the C-130 was being used heavily for different roles such as lift. The

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[24] Scott Jasper. "Joint Close Air Support Training Transformation." Marine Corps Gazette, Quantico (May 2004).

[25] Ibid.

inexperience of the AWACS crews led to vast confusion of TACAIR assets as well as FACs. The check-in briefs so vital to battlefield SA were either rushed through or not given at all. Aircrew count on these briefs to get them "out in front of an enterprise that requires a clear mind for sound judgment and split-second timing that will result in effects on target."[26] At times, the final controls were completed on the same frequency as other FACs creating confusion on which aircraft was "cleared hot" to drop his ordnance. Additionally, the lack of an air support operations center (ASOC) resulted in confusion and infighting over fire support assets and prioritization in the target areas.[27] Other problems included no traditional CP/IP matrix for aircraft deconfliction transiting into and out of the target area. Heavy bombers (B-1, B-52) making attack runs over tactical aircraft resulting in a near midair of a bomb and aircraft. The quality of a "visual talk-on" (FAC 'talking' a pilot's eye onto the target by using ground references) was also extremely weak, primarily blamed on poor training. These and other problems were contributed to a lack of joint operational level planning with all service players during the first few weeks of the war.

LCDR Will Burney, a FAC (A) with CVW-2 onboard USS Constellation (CV-64) during OIF, experienced difficulty working with the Army and overall C2 organization, especially at the onset of the operation. The latest version of Joint Pub 3-09.3 was not published until September 2003 and many units (mostly Air Force) were using terms from the draft pub such as Type I, II, and III CAS. This created confusion as to what the FAC was requesting as those units not familiar with the changes to the JP were left with

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[26] John Jansen. "The Tower of Babel? Joint CAS Operations in Afghanistan." Infantry, Fort Benning (January/February 2004).

[27] Scott Jasper. "Joint Close Air Support Training Transformation." Marine Corps Gazette, Quantico (May 2004).

big question marks over their heads. The Marines and Army had different definitions of what constituted CAS. The Army designated CAS everything short of the FSCL and that required close control or FACs to administer all tactical fires. Designating CAS everything short of the FSCL is generally true, but the Army had unreasonably distant FSCLs because of the fast-moving battlefield which created an unusually high demand on the sparse numbers of FACs in theater. At times, air operations inside the FSCL can and should be given type II and III CAS which is less demanding on the controllers.[28]

As in Afghanistan, LCDR Burney stated that there was difficulty with "walking" aircraft through frequencies in order to get the aircraft with the ordnance to the battlefield quickly. There were numerous near midair collisions as Marine and Army units working simultaneous CAS in close proximity were not talking to each other or coordinating their airspace as required by JP 3-09.3.[29] The ABCCC was typically an AWACS (as in OEF) and the aircrew received poor information such as wrong FAC frequencies, limited or no situation briefs, and sometimes the information was more than six hours old which is an eternity when the battlefield moves as fast as it did on OIF. LCDR Burney felt that the Air Force looked at CAS ABCCC as a type of aircraft, but should be looked at as a mission by giving the CAS ABCCC job to an aircrew trained for these challenges regardless of aircraft type.[30]

The transformation process has been a growing concern for the CAS mission. Because of the different schools of instruction for ground controllers of all services,

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[28] Face-to-face interview with LCDR Will Burney at Naval War College on May 3, 2005. LCDR Burney was a Radar Intercept Officer and FAC (A) in VF-2 onboard USS Constellation during OIF. He flew over 25 FAC (A) missions in support of ground troops engaged in combat.

[29] Joint Tactics, Techniques, and Procedures for Close Air Support (CAS). Joint Pub 3-09.3, Washington, DC: 1 December 1995. p. V-3.

[30] Interview with LCDR Burney.

standardization for JCAS is still lacking. The term JTAC (Joint Terminal Air Controller) is replacing FAC and ALO, but the schools of instruction have yet to fully adjust their curriculum based on the latest Joint Pub 3-09.3. Many reasons for this are lack of adequate funding, lack of emphasis in the appropriate ETL (essential task list), and lack of time during the training cycle to adequately address all facets of JCAS, just to name a few.[31]

A new method for combining new procedures amongst the services is the Joint National Training Capability (JNTC). It is being implemented by USJFCOM and is an ideal proving ground for the testing of the new JCAS doctrine, technology and improvements to terminal procedures as well as C2 improvements. An exercise dubbed MILLENNIUM CHALLENGE was conducted in 2002 and involved numerous concurrent CAS exercises at various locations such as 29 Palms, Ft. Irwin, Nellis AFB, Camp Pendleton, NAWC China Lake, and others. This posed a unique C2 challenge and each controlling platform was required to prioritize and organize strike aircraft for each of the JTACs.[32] Many JCAS improvements were tested and adopted including the change to Type I, II, and III CAS denoting the level of threat and type of control.[33] One of the shortfalls of MC '02 was the lack of assets to conduct the exercises. A majority of CAS assets were in Afghanistan or mobilizing to that locale and many units did not have the funding to conduct this exercise as much of the DoD funding was being channeled toward the war effort. The JNTC will continue to assist component commanders,

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[31] Scott Jasper. "Joint Close Air Support Training Transformation." Marine Corps Gazette, Quantico (May 2004).

[32] Ibid.

[33] Joint Tactics, Techniques, and Procedures for Close Air Support (CAS). Joint Pub 3-09.3, Washington, DC: 1 December 1995. pp. V14-20.

ensuring that their CAS assets are properly trained, organized, and equipped to conduct combat CAS in their AOR.

"Doctrine is intended to foster like-mindedness and military effectiveness; doctrinal provisions are generalizations gleaned from past experiences about what functions well."[34] Meeting together in symposiums and agreeing on procedures and doctrine is the easy part. Implementing them into their services and changing the overall force attitude toward JCAS is an entirely different entity. Creating a mindset that the ground scheme of maneuver is not only a priority, but a necessity in order for the task force to achieve its objective cannot be overstated. As mentioned earlier, the Air Force's deep-rooted beliefs that strategic bombing will win wars is difficult to overcome.

RECOMMENDATIONS

- Each service CAS schoolhouse must designate personnel to collate and attend annual JCAS symposiums with an open mind and exchange lessons learned and recommendations for future implementation in the joint publications.

- Maintain that C2 or ABCCC is a mission and not a platform. Each service is responsible for training their C2 aircrew in order to enhance their SA of the battlefield and control any aircraft and any service. Situation briefs to the aircrew upon check-in are critical to the overall understanding of the battlefield for the aircrew. Ensure that discrete frequencies are used at the FAC level whenever possible to avoid confusion on terminal controls.

- Adopt USMC C2 (figure 1) as a model for future JCAS operations.

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[34] David Keithly. "Revamping Close Air Support." Military Review, Fort Leavenworth (March/April 2000).

- Establish JCAS doctrine that accounts for current and future stand-off weapons such as JDAM, HARM, JSOW, etc. Current doctrine limits these weapons and, with creative thought, could and should be used more extensively. Different scenarios will require differing doctrine and tactics.

- The JFACC and JFLCC must coordinate daily and update and publish the ground scheme of maneuver to subordinate commands during operations. Playing "I've got a secret" only hurts the ground commander. If the aircrew knows the most up to date positions of friendly and enemy combatants, the performance of CAS will be that much better.

- Training must become more Joint. Each schoolhouse should encourage quotas from other services to further blend out any remaining differences in doctrine. For example, the Marine Corps should encourage not only Navy F/A-18 aircrew in its schoolhouse, but also Air Force F-16 and F-15E aircrew and Army AH-64 aircrew. This will establish an esprit de corps among services and instill confidence in aircrew and FACs that when hostilities occur, CAS will be executed with no surprises.

- Develop joint technology. The laser designators, link systems, secure voice radios, etc. must be compatible with all CAS platforms. This will not only save the DoD cash, but the interoperability of these systems will save precious seconds in identifying the target and friendlies, thus reducing fratricide.

- Lastly, senior leadership must take ownership. It must be instilled at the highest ranks that CAS is a primary mission for all services and is vital to the overall success of any operation the US undertakes.

CONCLUSION

When CAS goes as poorly as it had in OEF and OIF, senior leadership must take note and foster a joint attitude and team esprit de corps that is required for joint doctrine to succeed. Losing one life to friendly fire or one life to failure of a friendly aircraft to deliver his ordnance on target is one life too many. Zero lives lost in performance of the CAS mission must be the goal and when we fall short of that goal, we must strive to improve upon that failure.

When the call is made that forces are in close contact with the enemy and air support is urgent, the ground commander needs to know that whatever airframe he receives at the other end of his radio has been trained in the published and approved JP 3-09.3 and will perform as such. Likewise, the aircraft commander should have the confidence that the controls he will receive will be tightly coordinated and the communications he receives will be understandable and predictable. When a competent FAC and aircrew are working together to put bombs on target, on time, the results will be devastating for the enemy and eye-watering for the friendly forces.

BIBLIOGRAPHY

_____. Doctrine for Joint Operations. Joint Pub 3-0, Washington, DC: 10 September 2001.

_____. Joint Tactics, Techniques, and Procedures for Close Air Support (CAS). Joint Pub 3-09.3, Washington, DC: 1 December 1995.

_____. "Navy Forward Air Controller (Airborne) (FAC (A)) Training Curriculum, Syllabus 05-04 (CNO Course E-2A-1653)." Washington, DC: 04 October 2001.

Allison, Fred A. "Help from Above: Air Force Close Air Support of the Army, 1946-1973." The Journal of Military History, Lexington (October 2004).

Arana-Barradas Louis A. "Weapons for the fight." Airman, Washington (January 2003).

Arnold, Jefrey. "Are you using the Best Tools for Close Air Support?" Marine Corps Gazette, Quantico (May 2001).

Franzak, Michael. "Rethinking Close Air Support Terminal Control Procedures." Marine Corps Gazette, Quantico (March 2000).

Jansen, John. "The Tower of Babel? Joint CAS Operations in Afghanistan." Infantry, Fort Benning (January/February 2004).

Jasper, Scott. "Joint Close Air Support Training Transformation." Marine Corps Gazette, Quantico (May 2004).

Jasper, Scott and Binney, Michael. "Joint Close Air Support Training Transformation." Marine Corps Gazette, Quantico (May 2004).

Johnson, Garner. "Air Power at the Battlefront: Allied Close Air Support in Europe 1943-1945." Air Power History, Washington (Summer 2001).

Johnson, Garner. "Forgotten Progress: The Development of Close Air Support Doctrine Before World War II." Air Power History, Washington (Spring 1999).

Jonson, Nick. "Better Equipment, Training Needed for Close Air Support, Official Says." Aerospace Daily, Washington (June 25, 2003).

Keithly, David. "Revamping Close Air Support." Military Review, Fort Leavenworth (March/April 2000).

Kennedy, Harold. "Military Steps Up Training For Close-Air Support." National Defense, Arlington (December 2004).

Lambeth, Benjamin S. The Transformation of American Air Power. Ithaca, NY: Cornell University Press, 2000.

Parkhurst, Chris. "A Case for JCAS." NSAWC Journal, Fallon NV (Fall 2004).

Selinger, Marc. "DOD seeks more Jointness in Close Air Support Equipment." Aerospace Daily, Washington (June 3, 2003)

Sullivan Jr., W E. "History and Development of Close Air Support." Marine Corps Gazette, Quantico (November 1956).

Trimble, Stephen. "CAS Role Damaged by Staffing, Training Structure, Jumper says." Aerospace Daily, Washington (February 27, 2003).

Trimble, Stephen. "Wald: Close Air Support Emerging as Top Priority." Aerospace Daily, Washington (September 3, 2003).

Vego, Milan N. Operational Warfare. 2000.