

**NAVAL POSTGRADUATE SCHOOL
Monterey, California**



THESIS

**JOINT CLOSE AIR SUPPORT IN THE LOW INTENSITY
CONFLICT**

by

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June 2003

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REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704-0188	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington DC 20503.				
1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE June 2003	3. REPORT TYPE AND DATES COVERED Master's Thesis	
4. TITLE AND SUBTITLE: Joint Close Air Support in the Low Intensity Conflict			5. FUNDING NUMBERS	
6. AUTHOR(S) Maj Michael W. Binney				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Postgraduate School Monterey, CA 93943-5000			8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING /MONITORING AGENCY NAME(S) AND ADDRESS(ES) N/A			10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.				
12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release; distribution is unlimited			12b. DISTRIBUTION CODE	
13. ABSTRACT (maximum 200 words) During the Gulf War, millions of people around the globe, courtesy of CNN, witnessed the seemingly massive use of precision-guided weapons against Iraqi targets in the largest air campaign since World War II. Most of the missions were flown against Iraqi targets with no friendly forces on the ground. This type of air campaign is known as Deep Air Support, or 'DAS'. Equally as important, but receiving less spectacular news coverage, is Close Air support, or 'CAS'. When conducting CAS missions, the chance for 'Friendly Fire' incidents, injuring or killing your own troops on the ground, increases dramatically as compared to DAS missions. This may seem to be an obvious deduction since there are no friendly troops on the ground during a DAS mission but when small, specialized units, such as SEALs, Special Operations Forces (SOF), or reconnaissance forces find themselves in the deep battlespace, operating in a low intensity conflict (LIC) environment, these simple doctrinal distinctions can sometimes lead to confusion, or worse, friendly fire fatalities on the battlefield. It could be argued that there is a disconnect between joint doctrine and joint training which creates an environment on the LIC battlefield, as well as in training, that can lead to faulty execution of CAS missions, and potentially disastrous results, jeopardizing the safety of the very same ground personnel we are trying to support.				
14. SUBJECT TERMS Joint Close Air Support, Close Air Support, Fratricide, Fire Support, Low Intensity Conflict			15. NUMBER OF PAGES 81	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT UL	

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JOINT CLOSE AIR SUPPORT IN THE LOW INTENSITY CONFLICT

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Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF ARTS IN NATIONAL SECURITY AFFAIRS

from the

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ABSTRACT

During the Gulf War, millions of people around the globe, courtesy of CNN, witnessed the seemingly massive use of precision-guided weapons against Iraqi targets in the largest air campaign since World War II. Most of the missions were flown against Iraqi targets with no friendly forces on the ground. This type of air campaign is known as Deep Air Support, or 'DAS'. Equally as important, but receiving less spectacular news coverage, is Close Air support, or 'CAS'. When conducting CAS missions, the chance for 'Friendly Fire' incidents, injuring or killing your own troops on the ground, increases dramatically as compared to DAS missions. This may seem to be an obvious deduction since there are no friendly troops on the ground during a DAS mission but when small, specialized units, such as SEALs, Special Operations Forces (SOF), or reconnaissance forces find themselves in the deep battlespace, operating in a low intensity conflict (LIC) environment, these simple doctrinal distinctions can sometimes lead to confusion, or worse, friendly fire fatalities on the battlefield. It could be argued that there is a disconnect between joint doctrine and joint training which creates an environment on the LIC battlefield, as well as in training, that can lead to faulty execution of CAS missions, and potentially disastrous results. Though we have reached a technological level that gives us great advantage on the battlefield, the doctrine with which we use to prosecute our military campaigns, in terms of close air support, has sometimes lagged behind our technological advances to such a degree that we have jeopardized the safety of the very same ground personnel we are trying to support.

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I. INTRODUCTION

Close Air Support is an air action by fixed and rotary-wing aircraft against hostile targets which are in close proximity to friendly forces and which require detailed integration of each air mission with the fire and movement of those forces.

Joint Publication 1-02, DOD Dictionary of Military and Associated Terms

A. OVERVIEW

During the Gulf War, millions of people around the globe, courtesy of CNN, witnessed the seemingly massive use of precision-guided weapons against Iraqi targets in the largest air campaign since World War II.¹ Most of the missions were flown against Iraqi targets with no friendly forces on the ground. This type of air campaign is known as Deep Air Support, or 'DAS'.² Equally as important, but receiving less spectacular news coverage, is Close Air support, or 'CAS'. CAS missions are typically flown in support of ground forces that are engaged with the enemy. What delineates CAS from DAS is two doctrinally simple guidelines: (1) close proximity to friendly ground forces and (2) detailed integration.³ When conducting CAS missions, the chance for 'Friendly Fire' incidents, injuring or killing your own troops on the ground, increases dramatically as compared to DAS missions. This may seem to be an obvious deduction since there are no friendly troops

¹ Ricks, Thomas E. "Bull's-eye War: Pinpointing Bombing Shifts Role of G.I. Joe", *Washington Post*, 2 Dec. 2001

² <http://www.globalsecurity.org/military/library/report/1995/VAW.htm> (April 2003)

³ JP 3-09.3, Joint Tactics, Techniques, and Procedures for Close Air Support (CAS), Washington: GPO, 1995, pp I-1

on the ground during a DAS mission but when small, specialized units, such as SEALs, Special Operations Forces (SOF), or reconnaissance forces find themselves in the deep battlespace, operating in a low intensity conflict (LIC) environment, these simple doctrinal distinctions can sometimes lead to confusion, or worse, friendly fire fatalities on the battlefield. It could be argued that there is a disconnect between joint doctrine and joint training which creates an environment on the LIC battlefield, as well as in training, that can lead to faulty execution of CAS missions, and potentially disastrous results.

B. BACKGROUND

Close Air Support has been around since the first dive-bombing aircraft took to the skies in WWI. Subsequent operations in Haiti, the Dominican Republic and Nicaragua further developed the air-to-ground techniques that would be used throughout armed conflict in the twentieth and twenty-first centuries. The importance of air support to ground troops became self-evident as air-to-ground techniques were further refined and improved during WWII, Korea and Vietnam, and with the advent of sophisticated onboard technology such as Inertial Navigation Systems, Global Positioning Systems, and laser technology, the ability of pilots to deliver highly lethal and accurate payloads onto enemy targets has reached staggering proportions. Though we have reached a technological level that gives us great advantage on the battlefield, the doctrine with which we use to prosecute our military campaigns, in terms of close air support, has sometimes lagged behind our technological advances to such a degree

that we have jeopardized the safety of the very same ground personnel we are trying to support.

C. RESEARCH QUESTIONS AND ARGUMENT

The primary questions addressed in this thesis are:

- Is there a paradigm shift in the importance of the close air support mission when conducted in the context of the low intensity conflict? If so, to what extent, if at all, should our doctrine change to accommodate this shift?
- How do the different services train their aircrew and ground controllers in the execution of the close air support mission? Is there a significant difference in training that could lead to conflict on the battlefield when operating as part of a joint or coalition force?
- Do recent case studies of fratricide on the battlefield lead to any generalized conclusions about the way we train for the close air support mission and what, if any, changes could be made to current service training to make us a more effective joint force on the battlefield?
- In terms of military transformation, what innovations could be used to facilitate a transition to a more effective joint force structure in regard to the close air support mission?

Conventional wisdom regarding the use of close air support Afghanistan was that although the pilots in the air and the troops on the ground accomplished the mission at hand, there were many items of concern that were brought to the attention of each service during "After-Action" conferences and from submitted "lessons-learned". These concerns ranged from items such as a lack of doctrinal adherence on the part of pilots and ground controllers alike to a 'Vietnam-like' control of the target sets where permission to drop on a target was granted only from the

Combined Air Operations Center (CAOC) in Riyadh. This thesis will not attempt to lay blame to any one service but will try to examine how doctrine was or was not followed; why doctrine was or was not followed; and to assess each services training program with regard to close air support. The thesis will then try and draw conclusions as to how we can train better as a joint force.

D. METHODOLOGY

This thesis will answer the primary research questions by focusing on case studies drawn from recent conflicts in Afghanistan, Somalia, the Former Yugoslav Republics, and other regional low intensity or unconventional conflicts such as the War on Terrorism. In addition, a careful analysis of service specific training in the area of close air support will be examined to support or reject the premise that conventional doctrine does not translate well in the low intensity environment.

E. CHAPTER OUTLINES

Chapter II of this thesis will examine the strategic implications of close air support in the low intensity conflict. Drawing from case studies in Somalia, Afghanistan and other battlefield examples where close air support has had a significant impact far outweighing the battle damage of the specific close air support mission parameters, this chapter will attempt to show that a paradigm shift has occurred in the use of close air support in the low intensity conflict. Finally, this chapter will attempt to determine what, if any, changes need to be made to our doctrinal approach to close air support when executed under the context of a low intensity conflict. Ultimately, the chapter will argue that close air support, when executed under the umbrella of unconventional warfare such as

Operation Enduring Freedom or Operation Just Cause, has a markedly different impact on the battlefield than when conducted on the conventional battlefield and as such, military planners need to accept this significant dichotomy of the close air support mission.

Chapter III will focus on case studies of recent instances of fratricide. Also drawn from Somalia, Afghanistan and other low intensity conflicts, these case studies may help us to understand how and why fratricide still occurs on the battlefield and whether or not some of them may have been avoidable. Service specific training will be examined in these cases to determine whether or not any deficiencies in training may have caused these tragic and unfortunate deaths on the battlefield and in training. This chapter will argue that the current training program that each service conducts for its close air support mission may be adequate for that service when operating as a stand alone force but when operating as a joint force, the different tactics, techniques, and procedures that each service trains their forces in, may be insufficient on the joint battlefield.

Chapter IV will examine doctrine and training from all services in the close air support mission. The USAF and USMC training for ground forward air controllers will be covered in detail as well as the aircrew training for the USAF, USN and USMC tactical platforms that perform the close air support mission. In addition to these two training programs, the chapter will cover the training that aircrews receive in the forward air controller (airborne) or FAC(A) mission. The chapter will attempt to derive any specific differences and deficiencies among the service

specific training programs that might lead to doctrinal confusion or execution problems for the joint operating forces. The chapter will also try to draw related conclusions between the problems of battlefield fratricide and service specific training and what, if any, changes could be made to limit this loss of life on the battlefield and in training.

Finally, Chapter V will summarize the thesis and argue that a concerted effort will be necessary by all services to tackle the problems that exist with current doctrine and training in the close air support mission. In doing so, the joint operating forces will better be able to execute the close air support mission in training and on the joint battlefield.

II. STRATEGIC IMPLICATIONS OF JOINT CLOSE AIR SUPPORT

The truth is, this will be a war like none other our nation has faced.

Secretary of Defense Donald H. Rumsfeld, Sept. 27, 2001

A. OVERVIEW

Since the very first manned aerial flight, there have been those individuals who have proffered the use of airpower to bring a tactical advantage to ground forces on the battlefield. In the first war utilizing fixed wing aircraft, pilots on both sides used small biplanes to drop rudimentary bombs on the trenches of opposing forces in the 'Great War'. This had a demoralizing effect on the troops but did not do much actual damage when compared to the mayhem caused by both allied and axis artillery support. As the war progressed, the pilots became more involved, and arguably more enamored, with 'dog fighting' their opposing pilots in aerial duels trying to shoot one another down. Because of the lack of carrying capacity of those early aircraft, more attention was paid to the importance of clearing the skies of enemy aircraft than was paid to dropping ordnance on opposing forces and helping to shape the ground battle.

With the fall of the Soviet Union and the demise of a real and credible air-to-air threat, the US military has been turning its attention over the past decade towards the impact of tactical aircraft on ground warfare. That is not to say that there has not been a concerted effort in the development of CAS; conversely, the mission of aerial

support of ground forces with close air support has been demonstrated and refined during WWII, Korea, Vietnam and every major conflict the US has been involved with since WWI. Suffice it to say that the techniques and tactics utilized in the close air support mission had always taken a back seat to the larger and more glamorous mission of air-to-air engagement of enemy aircraft and the 'deep strike' strategic missions.⁴ WWII combat correspondents used to spin tales of the aerial combat exploits of allied fighter pilots and how they achieved their five (5) air-to-air kills and received the label of 'Ace', regardless of how many tons of ordnance that they may have dropped on enemy positions, especially those dropped in support of allied ground forces. The purpose of this chapter is not to discuss which is more important: the downing of enemy aircraft or the delivery of ordnance payloads in support of engaged ground forces. Rather, it is to examine and clarify the strategic implications of close air support in the Low Intensity Conflict (LIC), and secondly, to try and understand under what conditions that change a tactical mission's results into strategic ones. This will be accomplished by examining several case studies that involve both tactical battlefield successes as well as failures.

With the emergence and proliferation of precision-guided munitions on the battlefield, the accuracy of ordnance-to-target has never been greater. Conversely, with the same technology, the potential magnitude of mistakes made in the execution of close air support on the

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<http://www.airpower.maxwell.af.mil/airchronicles/apj/apj94/fedor2a.html>
[dor2a.ht](#) (April 2003)

battlefield, both by ground controllers and tactical aircraft, has also never been greater.

It can be argued that the U.S Military, specifically those individuals trained to conduct CAS missions, both on the ground and in the air, have entered into a new realm of warfare in which the success or failure of a relatively small tactical mission can have an exponentially greater strategic affect.

The conditions for this new era of CAS have evolved from the proliferation of the LIC environment, especially the War on Terrorism, as well as several other factors to include (1) globalization of multimedia, (2) the disintegration of centralized governments, and (3) technological advances in the lethality and accuracy of air-to-ground weaponry and support equipment.

Marine Corps Warfighting Publication (MCWP) 3-23.1 defines Close Air Support as an air action by fixed or rotary-wing aircraft against hostile targets that are in close proximity to friendly forces on the ground and which requires detailed integration.⁵ In the past, this has been a fairly easy concept to understand. However, with the increasing regularity of the Low Intensity Conflict or unconventional warfare it has changed the outlook and conceptual application of CAS from a tactical mission (which supports the ground commander's maneuver objectives) to one that has far-reaching strategic implications, both positive and negative.

In November of 2001, a U.S. Special Forces Forward Air Controller working alongside Pashtun tribesmen, utilizing

⁵ Close Air Support, MCWP 3-23.1, US Marine Corps, July 1998, pp 1-1

only a radio and the rapid response of U.S. Airpower, coordinated an aerial attack on Taliban forces that were counter-attacking his position. The end result of the mission was the destruction of the Taliban column, and more importantly the solidification of the relationship between U.S. Special Forces and their Afghan Allies. This incident, as well as the preceding case studies, will attempt to explain how a single tactical mission can have far-reaching results well above the success of a single tactical mission.⁶

B. HISTORICAL CASE STUDIES

1. Task Force Ranger

In October of 1993, the US Army had a contingent of Rangers and Delta Force working alongside the UN Mission in Somalia, but unlike their UN counterparts, Task Force Ranger had a very different mission than that of the peacekeepers. Their mission was to hunt down and arrest Mohamed Farrah Aidid, the local warlord from the Habageeter tribe that was controlling the flow of food to the starving Somalis. What he was doing, in fact, was using the food supplied by the UN mission to Somalia as blackmail against the other rival tribes. Because of his actions towards the other tribes, who were not getting the food they needed to survive, thousands of innocent Somali men, women and children were dying needlessly. In addition, it was Aidid's tribe that was causing the most trouble for the UN Peacekeepers, and after a series of particularly heinous actions against UN Peacekeepers, President Clinton ordered

⁶ <http://www.global-defence.com/comms-o.view.html> (April 2003)

Task Force Ranger to standup and be prepared to deploy to the region.

In the fall of 1993, TF Ranger deployed to Somalia. After they arrived in country, they began to conduct 'snatch' missions, missions where they would vertically deploy via helicopters from the Mogadishu International Airport, (their current base of operations), utilizing the MH-60 Blackhawk and the AH-6J Loach from Task Force 160th (TF160) for helicopter and close air support. A typical mission would be to vertically envelopment a suspected enemy compound, seize the key personnel from the location, and transport them back to their base for further processing.

One such mission, which was the impetus for the movie *Blackhawk Down*, began on the morning of 3 Oct 1993. TF Ranger had received intelligence from a Somali source working as a paid CIA informer. The intelligence information, which later turned out to be suspect, was that several of Aidid's key lieutenants were holed up in a building next to the Olympic Hotel near the busy Bakara Market, a place that was almost totally under the control of men loyal to Aidid. What the mission commanders did not know was that they would be waiting for them to arrive.

In previous missions, these men had tried to shoot down US helicopters utilizing Rocket Propelled Grenades, or RPGs. Though they had successfully shot down one helicopter in the past, the tactics of this mission was to use hundreds of RPGs instead of the sparing amount used in previous missions against U.S. helicopters. This was something that TFR had not anticipated as was evidenced by the type of tactics utilized by TF 160th helicopters, flying

low-level over the city during daylight hours, something they should only have done during the night or at an altitude that was outside the maximum effective range of an RPG.

In addition to this oversight of improper tactics by TF 160th support aircraft, TF Ranger also requested and was subsequently denied the use of AC-130 *Specter* gunship support. Part of the reason that TF 160th was utilizing daylight tactics was that the AH-6J gunship support would be more responsive to close air support requests, something that would have been unnecessary had TF Ranger been granted approval to use the AC-130 gunship.

The AC-130 *Specter* gunship carries a variety of air-to-ground weaponry ranging from 20mm to 105mm, but the most impressive and accurate system on-board the aircraft is the 105mm howitzer. Located in the tail of the aircraft, this howitzer can level a building in only a few shots. It has a targeting system that utilizes some of the most sophisticated sensors that the US military employs on the battlefield today, and was the type of close air support one would want in an urban environment, especially Mogadishu. The only drawback, if one could call it a drawback, was the possibility of collateral damage, especially to unarmed civilians. Such was the reasoning of Les Aspin, then Secretary of Defense, when asked why he declined the request for AC-130 gunship support during the mission.

Although the AH-6J *Littlebird* (or *Loach* as it is sometimes called), is a very versatile and efficient platform in the close air support role, it does not have the accuracy and firepower of the AC-130, and is limited in

the type and quantities of ordnance it can carry. The amount per sortie is limited to fourteen 2.75" High Explosive (HE) rockets and several thousand rounds of 7.62mm, which can be fired from dual mounted mini-guns. This is fairly consequential since the AC-130 can carry literally thousands of rounds of small arms ammunition as well as hundreds of HE rounds of 105mm. In addition, the loiter time of the AC-130 is extensive and could have covered extended periods of the mission.⁷

There can be no denying the absolute professionalism of the TF 160th aircrews during this battle. Many more Rangers and Delta Force personnel would surely have lost their lives were it not for the incredible tenacity that was displayed by the AH-6J pilots throughout the battle in delivering precise, timely and responsive air-to-ground fire support; however, it can also be said that they were flying to the maximum extent of their capabilities. As each Littlebird expended its ordnance load, it quickly made the flight back to Mogadishu International Airport, refueled, rearmed and ingressed back to the objective area. Due to the lack of a sophisticated surface-to-air threat, had an AC-130 detachment been deployed in theatre, it could have patrolled the skies over Mogadishu with impunity and delivered lethal close air support that could have enabled TF Ranger to accomplish its mission.⁸ This could have been accomplished even with Aidid's militia being ready for them, something that had been suspected from the beginning of the operation. Because the response time of Aidid's militia was so rapid, military analysts speculated that

⁷ <http://www.fas.org/man/dod-101/ops/docs/97-0364.pdf> (April 2003, pp. 30)

⁸ Ibid

Aidid and his militia knew the Americans were coming and were itching for a fight.⁹

Another significant aspect of the mission to consider is the fact that had the AC-130 been utilized, the two MH-60 Blackhawks that were shot down, callsigns "Super 61" and "Super 64", would not have been hovering over the city but would have been holding out over the water, awaiting the extraction call. Since there was no AC-130 support, it was deemed essential that the MH-60's, as well as the AH-6's, were needed in the close air support role, even if their only form of suppression came from the crew-served machine guns.

In the aftermath of TF Ranger's mission, President Clinton ordered the pullout of the Rangers and Delta Force. It is generally agreed that the loss of 19 American lives, as well as the graphic scenes of dead US Soldiers being dragged through the streets of Mogadishu, had a significant impact on the President's decision to pull out of Somalia.

Many lessons were learned from this mission but one of the most profound was the critical advantage that US forces gain from having effective, accurate and timely close air support. Although considered a tactical mission, the lack of substantial close air support in Somalia had far reaching consequences beyond the tactical and operational level. The critical decision to deny AC-130 support to TF Ranger had strategic implications that the National Command Authority (i.e. the Secretary of Defense, Les Aspin) failed to recognize.¹⁰

⁹ <http://www.fas.org/man/dod-101/ops/docs/97-0364.pdf> (April 2003, pp. 6,7)

¹⁰ <http://www.rand.org/publications/MR/MR842/MR842.chap5.pdf>, (April 2003, pp. 3)

2. UAV Predator Mission

On Sunday, Nov 3rd, 2002, the CIA successfully carried out the first recorded unmanned attack on six al-Qaeda operatives in northern Yemen. What makes this operation unique is that a Predator Unmanned Aerial Vehicle (UAV) was used as the delivery platform. Even more significant is that the weapon used for the mission was a Hellfire laser guided weapon. The Hellfire missile is an anti-tank, laser-guided weapon that tracks on reflected laser energy either from an independent ground source or an airborne laser designator. The laser source is modulated to distinguish itself from any other stray laser source that may exist on the battlefield. The Hellfire missile can then be programmed with the same modulation and when it senses the same laser reflection as the missile seeker head is looking for, it 'locks' onto the target and the flight controls steer the missile to the target. In Feb of 2001, the US Air Force successfully tested and launched precision guided missiles from a UAV. The CIA quickly incorporated the technology and in Nov of 2002, put the technology to use.

Killed in the aforementioned attack was Qaed Salim Sinan al-Harethi and five other low-level al-Qaeda members. US officials have been quick to praise the attack on the terrorists as one of the 'best' kills in Washington's war on terrorism.¹¹ One item that is missing from the article in the Washington Times is the matter of who or what was designating the target at the time of the mission. This missing piece of information is quite important as it further indicates the strategic impact of a successful close air support mission.

¹¹ The Washington Times, 5 Nov. 2002, "U.S. kills al Qaeda terrorist who attacked Cole", Scarborough, Rowan.

There are several questions from this mission that are worth exploring further. First, who was on the ground to confirm or deny the location of al-Harethi and his henchmen? Secondly, how was this information processed in such a timely matter to gain approval to hit the target?

It could be postulated, without going into classified mission details, that there was a 'spotter' on the ground in close proximity to the target. Since al-Harethi was in a moving vehicle, there seems to be no way of knowing, based strictly on UAV or satellite imagery, whether or not the six men in the car were in fact who we believed them to be. The simple fact of the matter is that there had to be someone on the ground who could identify the target as hostile, locate the target and provide up to the second targeting information to the individuals responsible for the operation of the UAV. Since it was a CIA operation, it is most likely that we will never know the exact details of the operation but suffice it to say that there was at least one individual, probably more, that had a laser designator and the proper communications gear to conduct the mission from the ground.

Once al-Harethi's identity was confirmed and the approval for the mission was given from the CAOC (Combined Air Operations Center, located in Riyadh, Saudi Arabia), the mission probably went something like this: First, radio contact between the ground observer(s) and the UAV 'pilots' was established, the mission brief was given, laser codes confirmed and targeting data was sent to enable the UAV to acquire the target. If the ground observer was handling the laser designator, proper geometry was established to prevent the Hellfire missile from tracking on the

designator and not the target. Once the Predator drone's missile acquired the target and the ordnance was released, the confirmation of the target being destroyed could be independently confirmed by both the UAV's imagery and the ground observer. In addition to these vital pieces of information, approval from higher headquarters would have to have been received before the mission proceeded to the terminal phase, that of the missile being released from the Predator Drone and the automobile's destruction. The end result was the successful destruction of the terrorist who was believed to have plotted the 1998 bombing of the U.S.S. Cole.

C. CONCLUSION

The above mentioned mission parameters fall into the definition of close air support because of two very simple concepts, (1) close proximity to friendly forces on the ground (CIA operators), and (2) detailed integration (laser designator, mission brief, target information, and battle damage assessment). The outcome of the mission was much more than just a tactical success or the 'destruction of a target'; it was far more consequential than that. The U.S. had gained a strategic victory in the War on Terrorism. As one can see, and as this writer is convinced, close air support in the Low Intensity Conflict, or unconventional warfare, has far greater strategic significance than when close air support is employed in a conventional conflict.

There are some suggestions that close air support in the LIC environment should be re-classified so as not to confuse the normal relationship between CAS and DAS in the conventional conflict. That is to say, let us call CAS

something else when it is flown in support of such unconventional missions as a CIA operation or Operation Enduring Freedom. I am not here to argue that point but to simply point out the significant difference that CAS has when accomplished successfully or unsuccessfully during unconventional warfare. It is a paradigm shift from our normal understanding of CAS missions flown during a 'theatre conflict' such as Desert Storm and Operation Iraqi Freedom.

As the U.S. appears to be wrapping up combat operations in Iraq, it will be interesting to see how the after action reports and lessons learned from the CAS missions play out and whether or not they had a strategic impact like they had in past low intensity conflicts such as Somalia and Afghanistan. My belief is that they will not have the same impact and although an essential element to any US ground combat operation, CAS in the conventional realm does not have the strategic impact it does in the LIC or unconventional environment. I feel this will continue to reside squarely only in the tactical realm in support of the ground combat element commander's operational objectives.

III. JOINT CLOSE AIR SUPPORT FRATRICIDE

A. OVERVIEW

One of the greatest strengths of our U.S. Military is its ability to use combined arms on the battlefield to effectively and decisively defeat its enemies. By utilizing technological advances for acquisition, targeting and destruction, we can overcome a numerically superior force by using deadly accurate fire support systems such as artillery, naval gunfire, mortars, and close air support.

On the flip side, one of the most tragic occurrences on the battlefield is when we kill our own troops due to 'friendly fire' or fratricide. There is nothing friendly about 'friendly fire' and it must be noted that with the substantial decrease in the amount of casualties that we have seen in recent conflicts such as the Gulf War, Afghanistan and Operation Iraqi Freedom, the killing of our own troops on the battlefield due to friendly fire has increased media attention exponentially. It must also be noted that since the Gulf War in 1991, the increase in technological advances of our weapon systems makes them more lethal, however, if targeted incorrectly, they are that much more lethal to our own troops on the battlefield.

During this chapter, several case studies of fratricide will be examined to determine if there are any causal factors or trends that can explain why we continue to kill our own on the battlefield. It may be that there are no hard and fast answers that can be quantified and used to eliminate or significantly decrease fratricide on the battlefield or it may be that there are significant

trends, actions, or attitudes that lead to fratricide that can be addressed to help lessen those losses.

Case studies will include after action reports from Afghanistan and Operation Enduring Freedom as well as incidences of fratricide that have occurred during training that emulate joint operations in the low intensity conflict. It must be noted that only air-to-ground cases of fratricide will be examined, and more specifically, only cases where a 'small footprint' of ground troops are present. This is done to narrow the scope of this chapter to fratricide in the low intensity conflict and how misapplication of procedures and understanding of doctrine can and does lead to, what this author believes, avoidable deaths on the battlefield.

B. BACKGROUND

As stated previously, a CAS mission is flown in support of ground forces that are engaged with the enemy and requires (1) close proximity to friendly ground forces and (2) detailed integration. CAS missions increase the chances for 'Friendly Fire' incidents because the ordnance dropped is usually dropped within line of sight of friendly troops on the ground. Since the chances for injuring or killing your own troops on the ground increases dramatically during a CAS mission, it is essential that all players in the CAS mission profile, ground controllers, tactical aircrew, and all support entities, understand and apply doctrinal procedures that have been written in the blood of servicemen since WWI.

During the past 12 years, since the end of the first Gulf War, the U.S. Armed Forces have been engaged in

multiple conflicts that have tended towards the low intensity conflict. Somalia, Bosnia, Kosovo, and Afghanistan are examples of this and emphasize the devolution of the type of conflict we expected to fight with the Soviet Union during the Cold War. The War on Terrorism has increased this tendency towards low intensity operations and underscores the need for us to address the close air support mission in a different context, that of a joint force multiplier and not as a parochial mission task of a specific service.

The misunderstanding or misapplication of joint doctrine will be the context by which this chapter examines the following fratricide case studies. This will be done in order to hopefully glean some insight into how we train and apply close air support concepts in joint, low intensity operations.

C. CASE STUDIES

1. Udari Range Incident 12 March 2001

On March 12th, 2001, a Navy F/A-18 from the USS Harry S. Truman inadvertently dropped a Mk-82 500 lb. General Purpose (GP) bomb on a friendly observation post on the Udari Range, 45 miles northwest of Kuwait City.¹²

The events and details surrounding the incident offer several opportunities to examine joint tactics, techniques and procedures of close air support doctrine.

The pilot of the F/A-18, and squadron commander of VFA-37, which was embarked aboard the USS Truman at the time of the incident, was involved in a CASEX or close air

¹² <http://www.centcom.mil/kuwait/kuwaitfile/release010303.htm> (April 2003)

support exercise at the Udari Range. Terminal control of the CAS assets during the exercise was an Air Force ETAC who was qualified as a terminal controller and had been conducting day close air support training prior to the incident.

In addition to the F/A-18 and ETAC, Air Force Staff Sergeant Timothy Crusing, there was a Navy F-14 that was providing assistance in the form of FAC(A) guidance during the bombing runs.

Typically a FAC(A) would be given control of a CAS mission if the ground FAC could not see the target and needed and requested help from an airborne FAC, in this case the F-14.¹³ What is interesting to note about this case is that the ground controller could easily see the targets he intended to hit with the F/A-18, but allowed the F-14 to 'ride' along the tail of the F/A-18 as an extra set of eyes. This is not doctrinal to the CAS mission and is a substantial element to the confusion that led to the inadvertent drop of the bomb on the wrong target.

Inherent in any FAC or FAC(A)'s duties during a mission is the release authority to drop ordnance on a target. This authority to drop is granted only to the FAC or FAC(A) controlling the mission, in this case the ground FAC.

Prior to this mishap bombing run, the ground controller and F/A-18 had been conducting CAS runs during the daytime with no unusual incidents. Subsequent to the daytime missions, the F-14 had checked on station with the ground FAC and requested practice in controlling CAS

¹³ JP 3-09.3, Joint Tactics, Techniques, and Procedures for Close Air Support (CAS), Washington: GPO, 1995

aircraft. The ground FAC granted permission to the F-14 to follow in trace of the F/A-18 and provide target guidance but the ground FAC never passed control of the mission or clearance to release ordnance to the F-14. What the F-14 did was to pass 'nose' corrections to the F/A-18 (for example, 'target easy left', 'target easy right', or 'nose pointed at the target'). During the fatal bombing run in which five U.S. servicemen and one New Zealand Special Forces Officer was killed, the Navy F-14 FAC(A) gave the mishap aircraft the same verbal guidance of 'nose pointed at target', even though the F/A-18 was pointed at Observation Post 10 on the Udari Range which included upwards of 20 coalition military personnel.

It is quite possible that the voice reports given by the F-14 and acknowledged by the F/A-18 pilot contributed materially to the mishap, even though, as a matter of doctrine, the ground FAC was responsible for and gave the final clearance for ordnance drop.

At the same time that the F/A-18 pilot was receiving the F-14 voice reports over the TAD net, the Air Force ground FAC was listening to them as well. During the daylight hours, he was able to double-check these voice reports visually and since the F-14 had not given any unusual or unsafe reports prior to dusk, he was lulled into a false sense of security when the F-14 gave the same voice report to the F/A-18, even though his nose was pointed at the OP and not the target area. As stated before, the ground FAC gave the clearance to drop but had the F-14 not been giving voice reports during prior bombing runs, he would have had to visually check the F/A-18 each and every run to ensure that he was pointing at the target area,

something which he did not do on the mishap bombing run until after he gave the 'cleared hot'; he visually checked one second too late. Upon realizing his mistake, the ground FAC, to his credit, tried to abort the mission but the F/A-18 pilot had already hit his 'pickle' button and released three five hundred pound bombs.

By reviewing this incident, it is not the scope of this paper to try and lay blame to any other than who the investigating authorities did, the ground FAC. Rather, it is the scope of this paper to determine what doctrinal concepts were or were not adhered to.

Foremost on this list is the use of the F-14 as a second set of eyes for the F/A-18 and ground FAC. Inherent in each CAS mission is the relationship between controller and CAS aircraft. The two must coordinate together to put bombs on target effectively and efficiently, and within the scope of the mission, as safely as possible. I state this up front to underscore the idea that sometimes a controller will need to put ordnance closer to his position based on the enemy threat. It is strictly a controller's prerogative to drop in close proximity of his position than is acceptable during peacetime operations. This is known as 'danger close'.

Arguably the inclusion of the F-14 FAC(A) into the mission, although it may have been beneficial to the F-14 aircrew training, was not in accordance with doctrine and contributed to a false sense of security to the other players in this mishap.

First, a FAC(A), by definition, is only required when the FAC on the ground cannot see the target area and needs

the added benefit of the FAC(A)'s eyes to direct the CAS asset onto the target. Secondly, the clearance authority to drop ordnance was never passed to the F-14 aircrew. This is something which should have been done if the F-14 aircrew was trying to train to joint standards. If not, both the ground controller and the FAC(A) aircraft were adding another piece to the CAS puzzle that was non-doctrinal.¹⁴

Why then did the ground FAC allow the F-14 to participate in the mission from a non-doctrinal perspective? Why did the F-14 not request terminal control of the F/A-18? At the heart of this mishap lies the question of training. What kind of training did each player receive? The mishap investigation, conducted by Lt Gen Michael P. DeLong, Deputy CentCom Commander, concluded that each player was properly designated by their respective units, but did little to answer the question of what type of training did each participant receive. This, I believe, is the crux of this issue.

The Air Force ETAC received the appropriate training from the JFCC course at AGOS, Nellis Air Force Base. The Nay F/A-18 pilot was properly designated to conduct CAS training in support of ground troops and the F-14 aircrew was properly designated as having completed the FAC(A) syllabus for their squadron. The main point to pull from this incident is that three separate entities, trained at three separate sites, and in accordance with three separate training syllabuses, came together to execute CAS training in a joint environment. Should not the training that these participants receive at least be developed jointly to ensure that all players are on the same sheet of music? It

¹⁴ Ibid

can be argued that parochial training programs are at the heart of misapplication of joint doctrine and unless the services can agree on a joint training program for ground controllers, airborne controllers, and close air support aircraft, incidents like this will continue to occur.

2. B-52 JDAM Incident 05 December 2001

On 5 Dec. 2001, a U.S. Air Force B-52 dropped a GPS-guided Joint Direct Attack Munitions, or JDAM, on a friendly position near Sayd Alim Kalay, Afghanistan, killing three U.S. Service members and five Afghan soldiers, as well as injuring numerous US and Afghan soldiers.¹⁵

Central to this fratricide incident was the use of a hand-held GPS receiver. Investigators of the incident determined that the ground forward air controller was using a hand-held GPS receiver to send enemy coordinates to the B-52 so that the aircrew could then program their payloads, (in this case the JDAM bomb), to hit the precise coordinates given to them by the ground controller. In this case, the procedures were correct except that the coordinates given to the B-52 were not the enemy's position, but rather the friendly position of the U.S. and Afghan fighters.¹⁶

The investigation also discovered that the GPS receiver's batteries had been replaced just prior to the passing of the coordinates. What is of significance to this sequence of events is that when the batteries on this

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<http://www.cnn.com/2001/world/asiapcf/central/12/05/ret.bombing.casualties/> (April 2003)

¹⁶ <http://www.cdi.org/terrorism/killing.cfm> (April 2003)

specific GPS receiver are replaced, the GPS, upon powering up, displays its current location. The ground controller had mistakenly thought that the GPS receiver would display the last known coordinates prior to being shut down for battery replacement, which was the coordinates of the enemy position.

In addition to the replacement of the batteries, another item of doctrinal interest occurred that contributed to this mishap: the sending of friendly coordinates in the proper format. Typically, and in accordance with JCAS doctrine, an enemy position is sent as a 10-digit coordinate and a friendly position is sent as a 6-digit coordinate. This is done for several reasons. First, an enemy position is sent as a 10-digit coordinate if a GPS is used to improve the accuracy of the weapon system. Conversely, the coordinates of a friendly position is passed as a 6-digit coordinate to decrease the accuracy of any enemy weapon system that might be employed against them if the enemy has signal interception capability. In this case, if the Taliban somehow had the ability to intercept U.S. transmissions, the friendly position sent via the radio would only give the Taliban the ability to target friendly positions down to the nearest hundreds of meters. There might be just enough of a built-in error with the 6-digit coordinate to allow U.S or coalition forces to escape injury if an attack were executed utilizing the intercepted transmissions and friendly coordinates. If the friendly position coordinates are transmitted to orbiting aircraft in the 10-digit format, with the intent to help them identify and not target friendly forces on the ground, and the Taliban were able to intercept these coordinates,

any attack they might be able to mount utilizing indirect fire support would be that much more accurate.

In this incident, both friendly and enemy coordinates were passed utilizing the 10-digit format. This is not to say that the mishap would not have occurred, only that an additional doctrinal misapplication occurred in concert with the wrong coordinates being transmitted to the B-52.

Why then did this duly qualified forward air controller make such simple mistakes? While the accident underscores the inherent danger of armed conflict and the potential for fratricide on the battlefield, it raises some important questions regarding the training our armed forces receive in the conduct of close air support.

As an Air Force ETAC, the controller in question had completed the requisite training prescribed by the USAF for the conduct of close air support but did the training he receive include the use of a GPS receiver and the intricacies surrounding its use? The answer is no.¹⁷

This is not an isolated incident in any way, shape or form either. None of the services, though exposed to the use of GPS receivers, has a curriculum requirement to train their ground controllers in the use of a GPS receiver. Most, if not all, of this type of training is accomplished in the context of on-the-job training (OJT).¹⁸ As stated earlier in this paper, the training that Air Force, Marine and Navy ground controllers receive is generally centered around the control of tactical aircraft from check-in to actual ordnance release. The method in which a trainee

¹⁷ Crittenden, Jules. "Report: Air controller called in friendly fire", *Boston Herald*, 27 Mar 2002

¹⁸ Ibid

locates the target on the map or with the naked eye does not include the use of a GPS receiver.

One unique ability of the GPS receiver is that it can take information derived from a laser designator or range finder, process that information and compute a location based on slant range from the laser source. In this fashion, the location of an enemy position can be determined to within just a few meters.

If you take this ability and compare it to the normal way in which a target position is derived, (that of map estimation, which is limited in accuracy to hundreds of meters vice just a few from the laser/GPS combination), it is easy to see the benefits of utilizing this technology.¹⁹

The obvious question here is that if the GPS can provide terminal controllers with such highly accurate target coordinates, why then is this not the preferred method of instruction at the service schools? Again, the question of terminal controller proficiency lies in training, not on-the-job training, but training at a designated school facility where obvious mistakes such as the one described in this mishap can be averted by proper technical training utilizing sophisticated equipment that will be part of the terminal controllers equipment once deployed. Simply put, had the training of this Air Force ground controller included the use of a GPS receiver, he may not have made this type of mistake on the battlefield.

D. CONCLUSION

There are many factors that can lead to fratricide on the battlefield. Terrain, weather, proficiency, loss of

¹⁹ MCWP 3-23.1, Close Air Support, pp. 4-5

situational awareness, discipline, technological malfunctions, battlefield stress and the general fog of war are just some of the causative factors of fratricide.²⁰ Some of these we will never be able to eliminate from actual combat operations, but the items that can be addressed should be addressed, and one of the most prominent of them is training. It is this author's opinion that our current training is too limited in terms of proficiency, and the instances of fratricide described above appear to confirm this. While it is likely we will never eliminate fratricide completely from the battlefield, we can take steps to significantly decrease its occurrence. Joint training initiatives as described in the proceeding chapter will go a long way in realizing the goal of fratricide reduction on the battlefield.

²⁰ Ibid, pp. 1-3

IV. JOINT CLOSE AIR SUPPORT TRAINING & DOCTRINE

Commanders and units must constantly emphasize training that routinely exercises CAS tactics, techniques, and procedures. Continuous, realistic training creates a better understanding of battlefield conditions and the situations in which CAS may be employed. Successful CAS training will result in safe and effective CAS employment and provide for synergistic fire support during all MAGTF operations.

Marine Corps Warfighting Publication 3-23.1,
Close Air Support

A. OVERVIEW

The previous chapter dealt with how the close air support mission takes on significantly greater strategic characteristics when conducted in the low intensity conflict. This chapter will examine current close air support doctrine and training and attempt to delineate a difference between both execution in the conventional realm and the unconventional or low intensity conflict. To do this, an examination of after action reports and lessons learned from Operation Enduring Freedom (OEF) and Operation Anaconda (OA) will be utilized.

The current revision of Joint Vision 2020 (JV 2020) addresses several concepts that directly apply to the Joint Close Air Support (JCAS) arena. Specifically, JV 2020 presents the Chairman Joint Chiefs of Staff's (CJCS) priorities, which include Doctrine, Organization, Training, Leadership, People and Facilities.²¹ Two of these are a bit nebulous - Leadership and People - as the military has always concerned itself with these and how to balance the

²¹ Joint Vision 2020, JS J7, 18 Oct 2002

two in regard to mission accomplishment. They also apply to an already established desire to put the right people in the right job. With that said, this chapter will concentrate on the remaining four (4) concepts of transformation, Doctrine, Organization, Training, and Facilities.

Before examining the desired end state of transformation in the JCAS arena, we first need to understand the current status of JCAS doctrine, organization, training and facilities. This chapter will address each of these separately.

B. DOCTRINE

The current joint publication that outlines the planning and execution of JCAS is Joint Publication (JP) 3-09.3, Joint Tactics, Techniques, and Procedures for Joint Close Air Support.²²

As the Lead Agent (LA) for JP 3-09.3, the U.S. Marine Corps is responsible for revising and publishing JP 3-09.3 with input from the other services. There is a mandate from the JCS that it be updated every five years to incorporate innovations, new concepts and new technologies that have been realized from the previous five years' worth of training and actual combat operations.

The last version of JP 3-09.3 was published in 1995 and has not been re-issued for the last eight years, three years past its mandated revision date. There are several possible reasons for this, not least of which may be fiscal constraints. In addition, it is possible that all parties

²² JP 3-09.3, Joint Tactics, Techniques, and Procedures for Close Air Support (CAS), Washington: GPO, 1995, pp. I-1

to the revision have agreed upon the current doctrine with little desire to change the status quo.²³

The lack of agreement on following doctrine outlined in JP 3-09.3 may suggest or point to an even greater parochial system where, in theory, all parties agree to the joint tactics, techniques, and procedures as set forth in JP 3-09.3, but in reality plan and execute their own TTP's with little regard to the doctrine set forth in 3-09.3. Consequently, the different branches of the armed services may have no need or desire to re-write a publication that is sufficiently vague to facilitate this doctrinal departure for service specific goals and agendas.

This chapter will attempt to show specific examples to support this assertion and to offer practical solutions to avoid this type of doctrinal conflict in the future.

In the past two years, the U.S. military has been involved in multiple armed conflicts, specifically, Afghanistan and Iraq, as well as ongoing operations in Bosnia and Kosovo. In all of these areas of operations (AO), the use of air power, specifically close air support, as a force multiplier and sometimes as the sole platform for fire support, has become increasingly significant. As the use of tactical aircraft (TacAir) as the primary (and sometimes only) fire support platform has increased, (due in large part to the geographical inaccessibility of some of the conflicts we are involved in, as well as the increased reliance on precision guided munitions (PGMs)), so has the highlighting of some significant differences between the services in the way we train and operate.

²³ Joint Close Air Support Conference After Action Report, Langley Air Force Base, VA Oct 1999

The area of JCAS has not been immune to this type of friction, and in the Afghanistan theatre this friction has been especially felt between the services. With a relatively small ground combat footprint, the reliance on CAS has been significant to give the U.S. military and its coalition partners the tactical advantage on the battlefield. This reliance has also had the secondary effect of highlighting some major problems between the joint forces, both on the ground and in the air. These differences have been born out of a transition from conventional warfare to the low intensity conflict and the added problems that a conflict like Afghanistan and Operation Enduring Freedom and Operation Anaconda can produce.

1. Operations Enduring Freedom (OEF)

Overall combat operations in Afghanistan were executed under the umbrella of OEF, with OA being executed under OEF. What differentiates OA from OEF is that OEF was predominantly a Special Operations Forces (SOF) Mission while OA was conducted as more of a joint sub-operation of OEF to root out the remaining strongholds of the Taliban and al-Qaeda.²⁴

With the introduction of joint forces into OEF, specifically Marine Corps Marine Expeditionary Units (Special Operations Capable) (MEU(SOC)) and Carrier Battle Groups (CVBG), friction started to develop between air and ground forces based on (1) a lack of working knowledge of joint doctrine, (2) misunderstanding of joint doctrine, and

²⁴ Marine Corps Gazette, "Tower of Babel: Joint Close Air Support in OEF", Mar 2003, pp. 35

(3) deviation from joint doctrine for little to no reason other than taking the 'path of least resistance'.²⁵

Some of the reasons given for this departure from joint tactics, techniques, and procedures (TTP's) was that OEF and OA were not conventional-type operations and therefore conventional TTP's were not applicable to the situation. While this may sound reasonable on the surface, it quickly became apparent that unless all forces involved in OEF and AO agreed upon the doctrinal deviations, no common baseline for conducting air-to-ground missions could be established.

The measure of operational effectiveness, or in this case, joint operational effectiveness, can be measured at all levels of warfare: strategic, operational, and tactical. However, in the arena of JCAS, effectiveness can and should be measured at the tactical level, specifically, how well joint forces accomplish the air-to-ground close air support mission.

a. OEF & OA After Action Reports

During the post-OA JCAS conference held at Al-Jaber Air Base in Kuwait and based on after action (AA) reports and lessons learned (LL) from OEF & OA, it is apparent that the joint operating forces did not execute the close air support mission as effectively as it could have, and in some cases, executed the mission poorly, sometimes with disastrous results.²⁶ That is not to say that the mission was not accomplished, but that the mission could have been executed with significantly greater results with significantly fewer assets in a given timeframe.

²⁵ Ibid, pp. 36

²⁶ <http://www.cdi.org/terrorism/killing.cfm> (April 2003)

This lack of effectiveness rests squarely at the feet of non-adherence to joint TTP's as set forth in JP 3-09.3, (Joint Tactics, Techniques, and Procedures for Close Air Support). In an article in the March 2003 Marine Corps Gazette, several students from the Marine Corps Command and Staff College who had operational experience in OEF and OA highlighted many of the problems they faced while serving in the Afghan theatre of operations. Listed below is a synopsis of their observations (note: of the six Officers who contributed to the article, only two are from the U.S. Marine Corps, which may dispel any notion that it is strictly a parochial service-specific critique of OEF and OA):

- Lack of understanding by the aircrew in regard to the commander's intent and ground scheme of maneuver.²⁷
- No dedicated airborne Command & Control platform. The Air Force utilized the Airborne Warning and Control System (AWACS) aircraft for command and control of JCAS assets instead of the dedicated ABCCC (Airborne Battlefield Command and Control Center) platform. Since the AWACS aircraft lacks the specific on-board equipment used for the JCAS mission, it was ill-suited for the mission.²⁸
- No traditional control points were established to facilitate the expeditious use of tactical aircraft flowing into theatre. Contact Points (CP's) are used by TacAir to check-in with terminal controllers and Initial Points (IP's) are used by TacAir to start their attack runs into the target area. What was used in their place was a simple grid system that was previously used for Air Interdiction (AI) and Armed Reconnaissance (AR) in the initial phases

²⁷ Marine Corps Gazette, "Tower of Babel: Joint Close Air Support in OEF", Mar 2003, pp. 34

²⁸ Ibid

of OEF and OA but was inadequate for the execution of JCAS.²⁹

- Standard communication architecture was not utilized as prescribed in JP 3-09.3. Instead of each terminal controller being assigned a discrete frequency to control TacAir, a single frequency with multiple controllers was used. This created a dangerous environment for both aircraft and terminal controllers, which could have lead to mid air collisions and possible fratricide on the battlefield. This situation was due in large part to the requirement of the Combined Air Operations Center (CAOC) in Saudi Arabia to monitor and approve all release authority in the Afghan theatre. This added a non-doctrinal and unnecessary layer of command and control on the air-to-ground operations that can lead to a non-doctrinally unsafe environment.³⁰
- Standard communication and brevity codes were either not used or misused and out of context. As an example, the use of the codeword 'cleared hot', a term strictly reserved for terminal controllers for the positive release of ordnance from TacAir, was used by the CAOC and AWACS aircraft. This lead to confusion since they were only using one TAD (Tactical Air Direction) frequency for multiple JCAS missions. Many pilots and/or terminal controllers were not sure who was issuing the 'cleared hot' call. This is probably the most dangerous of all the non-doctrinal JCAS situations that could happen on any battlefield. The potential for a pilot to mistakenly drop on a 'cleared hot' call not from the terminal controller coordinating their specific mission could have easily lead to fratricide on the battlefield, or unnecessary civilian casualties.³¹
- Lack of use of the JCAS standard 9-line briefing format. Although JP3-09.3 does not require the use of the 9-line brief in a permissive environment, much of the information contained in

²⁹ Ibid

³⁰ Ibid

³¹ Ibid

the brief is essential to give pilots the proper situational awareness (SA) in order to properly execute the JCAS mission. In OA it was too often disregarded, which led to longer loiter times over the target area by TacAir as well as increased time to accomplish the mission. Many sorties had to be re-routed to tanker aircraft due to the confusion created by insufficient information in the pre-mission brief. A greater use of the 9-line brief could have alleviated this target acquisition delay.³²

- Time-On-Target (TOT) not used. Although once again not required in a permissive CAS environment, the use of a TOT has the ancillary benefit of decreasing the time an aircraft spends over the target area. By not using a TOT, delays were experienced between aircraft check-in and target engagement, thereby decreasing the overall effectiveness of the JCAS mission.³³
- The lack of use of a 'mark' for target identification and the inefficiency of 'talk-ons' to get pilots eyes on the target area. Because coalition forces on the ground were primarily using lasers and GPS coordinates to mark targets, it was essential for ground controllers to give effective 'talk-ons' to the pilots to get their eyes on to the target area. A 'talk-on' is a technique where the terminal controller or GFAC geographically describes the target area to cage the pilot's eyes onto the specific target they want the aircraft to destroy with their ordnance. This does several things. First, it is a safety measure to ensure the pilots are looking at the same target that the GFAC is and not at friendly forces. Secondly, it reconfirms to the pilot the electronic targeting data, either a laser spot or GPS spot, which he has or is receiving from the GFAC. And thirdly, it builds the pilot's SA for the initial run-in to the target area. It was generally agreed upon at the OA JCAS conference

³² Marine Corps Gazette, "Tower of Babel: Joint Close Air Support in OEF", Mar 2003, pp. 35

³³ Ibid

that the quality of 'talk-ons' could have been a lot better.³⁴

2. Recommendations

The information provided by the after action reports from OEF and OA are indicative of the parochial relationships between the services, especially in the JCAS arena. JP 3-09.3 is not a new document and all the services have agreed upon its content. However, in the context of unconventional warfare, and specifically OEF and OA, it became apparent that conventional doctrine was disregarded because of the mistaken idea that the doctrine did not apply to the low intensity conflict or unconventional warfare.

There are many cases where this can be argued but without a basic understanding of joint doctrine, (which appeared to be the case in many instances in OEF and OA), a departure point from doctrine is hard to define.

Historically the services, although joint at the strategic and sometimes the operational level, operated in a very parochial manner with very service specific agendas. This did not cause much concern since the operating forces did not inter-mingle at the tactical level, but OEF and OA has changed all of that. US Army, Air Force, Navy and Marine Forces found themselves operating in the same area as well as using the same communication frequencies. This kind of joint operations is very quick to expose any differences between TTP's, especially those that differ from JTTP's. It is imperative that all joint forces adhere to joint doctrine and if there is a departure from joint

³⁴ Ibid

doctrine, that it is for a compelling and logical reason and agreed upon by all participants.

In the area of training, especially the USAF and USMC, the operating forces must ensure that the training that each service provides to its own terminal controllers is in accordance with joint doctrine. Simply put, the US Air Force and the US Marine Corps need to ensure that the tactics, techniques, and procedures taught at their service specific schools are the same so that no matter who is controlling joint aircraft in the future low intensity or unconventional conflict, they will have the same understanding of joint doctrine and procedures. If not, more confusion will exist on the battlefield at the joint level. This is obviously an unacceptable alternative.

At the JCAS conference at Al-Jaber a USAF F-15 pilot gave his assessment of the JCAS conducted during OEF and OA. What is ironic is that an F-15, by doctrine, does not fly close air support missions, but they were pulled into service to fill critical gaps in the CAS mission in Afghanistan. Here is an excerpt from those comments:

We Strike Eagle guys don't do CAS. It is not a primary mission for us. We do not train to CAS. When we got over the AOR, we figured out that we needed to learn how to do it pretty quick. So we did some research, found some pubs, and prepared ourselves. We thought we were ready. When we got in country, the operations were nothing like what we had expected. We concur with almost everything that has been said here this morning. But we have a question. Is there any reason why we can't just use this publication to fix the problems? Seems like most everything that folks are talking about is covered in this pub.³⁵

³⁵ Marine Corps Gazette, "Tower of Babel: Joint Close Air Support in OEF", Mar 2003, pp. 38

At this point he held up JP 3-09.3.³⁶ Until the need exists to deviate from already established joint tactics, techniques and procedures, current joint doctrine should remain in effect. Or simply put, why not use the manual that has all the answers?

In the area of acquisitions, the services need to abide by the already established Joint Requirements Oversight Committees (JROC) of their specific area, (in this case the JCAS JROC), to ensure that the fielded equipment in all services is compatible with joint ground and air forces. There may be some growing pains in the near future as the services migrate towards this unity of high technology but if we are ever to truly operate as a cohesive joint force on the battlefield, we need to have commonality amongst the operating forces in the area of radios, lasers, GPS, and other high tech equipment specific to the close air support mission. Currently this is not the case. As described in the AA reports of OA at the post-JCAS conference, Special Operations Forces (SOF) were using off the shelf German-made laser range finders to quickly fix a target's GPS coordinates. The US Marine forces did not have this same technology, so the same mission required valuable extra minutes for USMC terminal controllers to execute.³⁷

This is an unacceptable situation for several reasons. First, all forces should have the latest equipment to accomplish the mission and secondly, off-the-shelf

³⁶ Ibid

³⁷ Marine Corps Gazette, "Tower of Babel: Joint Close Air Support in OEF", Mar 2003, pp. 33

technology should have been fielded and tested at the service schools, not procured as a last minute fix to a technological deficiency. This may be a money issue and not in the scope of this critique but it points to a greater problem if the greatest Armed Forces in the world needs to go 'shopping' to buy essential equipment that can and should be provided to ALL our warfighters before they reach the battlefield.

3. Conclusion

In terms of military transformation in the area of joint close air support, it is apparent that we have the ability to change the way we do business and conduct training. How quickly we transform is another matter altogether. Parochialism in terms of training and execution at the joint level needs to be replaced with a greater desire to achieve jointness and adhere to already established doctrine, especially in the realm of unconventional warfare. It is here that joint doctrine can serve the joint forces most effectively by establishing a baseline of understanding from where deviations can take place. Without this common understanding of joint doctrine, any attempt to deviate from established doctrine can and will lead to confusion on the battlefield and an increased possibility of fratricide, the limiting of which, must be our first consideration in executing any close air support mission.

C. TRAINING

1. Overview

As stated previously, doctrinal misconceptions and misunderstandings can lead to confusion on the battlefield, but how different services come to the point of doctrinal departure is worthy of investigation. With this in mind, the following chapter will try to outline the major differences in how each service conducts its own air-to-ground training with respect to both aircrew and ground controllers. With a better understanding of how each service trains its people in the close air support mission, it might then be easier to understand why we have problems operating in the joint environment, even though the doctrine is joint, and agreed upon beforehand.

2. United States Air Force CAS Training

The USAF conducts air-to-ground training at two primary sites, Nellis Air Force Base in Nevada and Eglin Air Force Base, which includes Hurlburt Field, in Florida.

Located at Nellis Air Force Base is the Air-to-Ground Operations School, or AGOS. Within AGOS, the 6th Combat Training Squadron, or 6 CTS, is responsible for conducting training courses for the CAS mission. 6 CTS conducts the Terminal Attack Controller Course, or TACC, to train the Enlisted Terminal Attack Controller, or ETAC. At this course, the ETAC receives two weeks of classroom instruction with an additional week devoted to field operations and actual control of tactical aircraft at nearby Ft. Irwin's live fire range. During the two-week classroom instruction, the ETAC is instructed in the tactical relationship between themselves, the U.S. Army units they may be assigned to, and the tactical aircraft they may control in support of ground operations. What may not be evident in this description is the fact that the

ETACs begin their instruction with little to no prior knowledge in the control of tactical aircraft and within three weeks time, are designated as representatives of the USAF to control tactical aircraft in the execution of the close air support mission. In fact, during their one-week training at Ft. Irwin's live fire range, each student may graduate with as few as four 'controls' of tactical aircraft.³⁸ A 'control' is defined as directing a tactical aircraft from its initial point of entry into the target area until it has completed its bombing run and returned to its starting point.

In concert with the TACC course, AGOS also conducts courses to support the training of Air Force officers who will serve as Air Liaison Officers, or ALOs, to US Army units. ALOs and ETACs work closely together within their respective units to provide proper support to US Army units.³⁹

The AGOS School also conducts a one-week training course for airborne forward air controllers, or FAC(A). This course instructs USAF pilots in the mission of controlling tactical aircraft from an airborne platform in the conduct of the CAS mission. A FAC(A) will be utilized in the event that a ground terminal controller is unable to see a target and has requested the services of a FAC(A) to locate, acquire, and designate a target for attack by another aircraft.⁴⁰

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http://66.34.153.66/schools/JFCC/joint_firepower_control_course.htm
(March 2003)

³⁹ <http://call.army.mil/products/trngqtr/tq2-02/rouleau.htm> (March 2003)

⁴⁰ <http://www.nellis.af.mil/units/agos.htm> (March 2003)

Although a pilot may attend the FAC(A) School at Nellis Air Force Base, they will receive their actual flight training back at their parent squadron.

In addition to AGOS at Nellis, AFB, the USAF also conducts a considerable amount of CAS training at Hurlburt Field at Eglin AFB in Florida. The USAF Special Operations Squadrons are located here, including the AC-130 Specter Gunship squadrons. These squadrons conduct training with special operations units in support of US Special Operations Command missions and training requirements. An ETAC that has been designated to work with special operations forces will receive additional training at Hurlburt in the execution of CAS missions in support of Special Operations Forces.

To complete the training picture that exists within the USAF, the actual 'bomb droppers', or tactical aircraft that will deliver ordnance in support of CAS operations will receive their training at their respective squadrons.

Without going into detail of each training entity mentioned above, I want to highlight a general theme that exists in the CAS training environment: that CAS training within the Air Force is decentralized and multi-located. Ground controllers are being trained at Nellis Air Force Base and Eglin Air Force Base. Airborne controllers are school trained at Nellis but receive their in-flight training at their respective squadrons, and to complete the loop, CAS aircrews being trained at their respective squadrons.

This type of decentralization within one service may lead us to understand why there may be a misunderstanding

of doctrine as it applies to the CAS mission. With so many venues providing training for the same mission, it is my opinion that it is inevitable that conflicting tactics, techniques, and procedures will be taught and subsequent conflict will arise between the training entities.

Keep in mind that this is just one service that trains at multiple sites and how much more this scenario is likely to occur between the services and not just within the US Air Force.

3. United States Marine Corps CAS Training

Much like the Air Force, the Marine Corps also has multiple sites where it conducts CAS training. The primary location for the training of Forward Air Controllers, or FACs, the equivalent of the USAF ETAC, is conducted at the Expeditionary Warfare Training Groups, both on the east coast, known as EWTGLANT, and the west coast, known as EWTGPAC. EWTGLANT has its home in Little Creek, VA and conducts its live fire training at Marine Corps Base Camp Lejeune, NC. EWTGPAC is located in San Diego, CA on Coronado Island and conducts its live fire training at Marine Corps Base Twenty-Nine Palms, CA.

Although located at dual sites, EWTG conducts the same training for FACs at both locations. The major difference between the two schools is the type of terrain that the students actually control tactical aircraft from. Camp Lejeune is primary a flat wooded area with little to no terrain difference while 29 Palms is located in the heart of the Mojave Desert and has wide open desert terrain coupled with some rugged mountainous terrain.

The course syllabus consists of two weeks of classroom training followed by one week of field training, much like

the TACC School for ETACs. Both locations teach from an identical syllabus and there is no appreciable difference between the pilots who graduate from the east or west coast school. What is significant, in regard to their Air Force counterparts, is that they are all designated pilots and/or naval flight officers. In addition, each graduate is required by the Training and Readiness Manual, Volume 9, or T&R Vol. 9, to control twelve tactical missions before they graduate. If you take into account the fact that USMC FACs are designated aircrew in concert with their twelve mission sortie requirement and compare them with their Air Force ETAC counterparts from the TACC, who receive, on average, four terminal controls before they graduate, it is easy to see the disparate training and level of proficiency that exists between the two services. That is not to say that the Marine Corps is without its detractors in the CAS arena. Mentioned above is only the training that aircrew receive when they will be assigned to a ground unit as a FAC.

Another aspect of Marine Corps TACP training at EWTG includes the addition of other supporting arms such as artillery, mortars and naval gunfire. Each student is required to become proficient in the standard call for fire for each type of supporting arms. This is not that case with the USAF AGOS. While the training a FAC receives in calling in supporting arms is not the primary focus of TACP school, it has the ancillary benefit of making FACs that graduate from EWTG a 'universal spotter', or someone who can call in all forms of supporting arms, not just CAS aircraft.

What is most important to note between USAF and USMC training is not which training program is better but to realize that each service has different requirements, objectives, tactics, techniques and procedures, even though both services agree upon the concepts and tactics as set forth in JP 3-09.3. If we were to fight as parochial services and not intermingle as a joint force, this might not be of significant interest, but when operating in the joint environment, this can become the proverbial 'straw that broke the camel's back' in this author's opinion. The need for a single source, joint schoolhouse has never been greater in the context of the War on Terrorism and our ability to operate as a cohesive fighting force on the joint battlefield.

What will be covered in the following paragraphs is the training that CAS aircrew and FAC(A)'s receive, and the potential conflicts that may arise from their different training objectives and programs of certification.

4. USAF CAS & FAC(A) Aircrew Training

The United States Air Force provides three basic airframes for the close air support mission, the F-16 Falcon, the A-10 Warthog and the AC-130 Specter Gunship. These aircraft and their crew are responsible for providing close air support to the U.S. Army, joint and coalition forces as the theatre or component commander directs. What is interesting to note about this is that during recent conflicts in Afghanistan, several more airframes were added to the mix of 'close air support' aircraft that had not previously been assigned that type of mission. Included in these were the B-52, B-1, and B-2 bombers as well as the F-

15 Strike Eagle. Though not normally employed as a close air support asset, these airframes and their aircrew provided invaluable support to SOF forces on the ground in Afghanistan that helped to turn the tide of many battles against Taliban and al-Qaeda forces.

What is within the scope of this paper is not who directs these assets in the accomplishment of their close air support mission but rather how they are trained and certified to deliver ordnance in support of the ground forces that they are flying close air support for.

Most of the training received by these ad-hoc airframes that flew close air support missions was on the job training; that is to say, they had very little formal training back in CONUS in the execution of the close air support mission.

The A-10, AC-130 and F-16 squadrons within the USAF are normally assigned the CAS mission and it is safe to say that they were the only squadrons deployed to the Afghan Theatre that had received prior CAS mission training to such a degree that could be called commensurate with Mission Essential Task Lists or METLs.

Typical training for F-16, AC-130 or A-10 aircrews consists of squadron-based training as part of a close air support training package that each pilot would normally receive during their standard combat training phase.

The one item of note for this would be that each squadron may train to the close air support mission with different levels of proficiency and adherence to doctrine. This is most likely the case with any squadron, service-wide, that trains for this specific mission. I only point

it out here to highlight the need for strict adherence to joint doctrine when training at the squadron level. This becomes imperative when joint service aircraft are flying in support of joint forces on the ground. If a ground controller operating in the Afghan Theatre is awaiting the arrival of a section of close air support aircraft and they do not know if a USAF F-16 or a USMC F-18 or a USN F-14 will show up on station to provide them close air support, it only makes sense that the doctrine employed and understood by the aircrew be exactly the same so that the ground controller, who also needs to know, understand and employ doctrine, can safely execute the mission at hand.

If the USAF continues to use the B-52, B-1, B-2, and F-15 in the non-traditional role of a close air support platform, it is imperative that these airframes and their aircrew be assimilated into the close air support mission training that the USAF oversees and that that training adhere to joint doctrine to the maximum extent possible.

In addition, during OEF and OA, the Army's AH-64 Apache helicopter was also used in the close air support mission. This is not normally the case as the Apache is typically utilized in a maneuver capacity with a battalion-sized element. I only mention it here to stress the same edict, that if they are to be used in the CAS mission, they need to train to the same standard as those platforms traditionally used in the CAS mission. Currently, this is not the case and needs to be addressed and remedied if they are to fly the CAS mission.

5. USMC CAS & FAC(A) Aircrew Training

The U.S. Marines have two fixed-wing and two rotary-wing aircraft that can fly in support of the CAS mission. The F-18 and the AV-8B are fixed-wing assets and the AH-1W and the UH-1N are rotary-wing platforms that can all execute the CAS mission for Marine and Joint Forces deployed around the globe.

The training that aircrew in these respective airframes receive in the execution of the CAS and FAC(A) mission is delineated in Marine Corps Order P3500.37, the Aviation Training and Readiness Manual.⁴¹ In addition to the T&R Manual, the Marine Corps also has several publications that support CAS training. These include but are not limited to the Marine Corps Warfighting Publication (MCWP) 3-23.1, *Close Air Support*, and the MCWP XXXX, *Supporting Arms Observer, Spotter, and Controller*. Most of the information detailed in these two publications is derived from JP 3-09.3, *Joint Close Support*. This is pointed out to express a simple idea that each service has its own publications that are derived from the joint publications dealing with armed conflict, and more specifically, the close air support mission. If this is the case, do the services really need to have a separate publication for the execution of the CAS mission or is JP 3-09.3 sufficient for all the services? It is the position of this thesis that JP 3-09.3 is sufficient for any service-member, regardless of the uniform they wear, to execute the CAS mission, and that the addition of service specific publications such as MCWP 3-23.1, could lead to doctrinal conflict when operating in the joint environment. It is essential for all services to

⁴¹ Marine Corps Order P3500.36, Aviation Training & Readiness Manual, 08 May 01

default to the joint publication, in this case, JP 3-09.3, when operating with joint forces.

6. USN CAS & FAC(A) Aircrew Training

The United States Navy is very similar to its approach of CAS training as its' sister service, the U.S. Marines. Those airframes and aircrew designated to provide close air support, (in this case, the F-18 and F-14), accomplish training in the CAS mission under the umbrella of squadron-based training. As part of any pilot's training program, the CAS mission is part of their combat training qualification phase. Again, the emphasis here is that each squadron accomplishes its own training in the course of a normal training rotation and no service specific qualification is necessary for a USN aircrew to drop ordnance in support of engaged ground forces. That is to say that Navy pilots will undergo squadron training to receive their CAS qualification as set forth by U.S. Navy Aviation requirements for the conduct of CAS, but a squadron is not, on a normal basis or interval, required to validate its own training program above the squadron level. The Navy is not alone in this aspect. In fact, all of the services conduct CAS mission training at the squadron level and are not normally evaluated above that level. The end result of this examination of training objectives is that it is virtually impossible to certify that all pilots, from all squadrons, from all the services, who fly the CAS mission, are training to the same standards. If this is the case, how do we ensure that any pilot flying the CAS mission in support of joint forces is executing the mission according to joint doctrine?

D. CONCLUSIONS

What then should the services do to streamline each of its' own training program to mirror joint doctrine? As a matter of safety and preserving lives on the battlefield, I feel it is each services duty to ensure that we are all on the same 'sheet of music' so that no matter who is on the ground and no matter who is in the air, that we can operate together as a cohesive joint force and accomplish the mission at hand. This can only truly be accomplished if we adhere and train to joint standards as set forth in already established publications and if the need arises to change doctrine, that it be accomplished jointly and on the training field - not the battlefield - as was the case during Operation Enduring Freedom and Operation Anaconda.

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V. JCAS RECOMMENDATIONS

The joint force has made significant progress toward achieving an optimum level of interoperability, but there must be a concerted effort toward continued improvement. Further improvements will include the refinement of joint doctrine as well as further development of common technologies and processes. Exercises, personnel exchanges, agreement on standardized operating procedures, individual training and education, and planning will further enhance and institutionalize these capabilities.

Chairman, Joint Chiefs of Staff
Joint Vision 2020

A. OVERVIEW

During the past two years the U.S. Military has been engaged in the War on Terrorism on two distinct levels. The first of which has been the area of low intensity conflict operations such as Operation Enduring Freedom and Operation Anaconda in Afghanistan. The second has been the more conventional level of conflict as seen in recent actions in Operation Iraqi Freedom. While both Afghanistan and Iraq have involved U.S forces who's mission has been, among others, that of regime change, and the broader mission of the continuing War on Terrorism, each military operation posed unique challenges to our doctrinal concepts of close air support.

In OEF and OA, U.S. military forces have been primarily engaged in the low intensity conflict utilizing the revolutionary Special Operations Forces model of warfare - that of providing assistance to indigenous forces

to overthrow an existing government that is anathema to U.S. foreign interests.

In contrast to this, Operation Iraqi Freedom was a conventional conflict at least in terms of major battles fought against the regular Iraqi Army and Republican Guard units. Both types of conflict utilized and continue to utilize the overwhelming superiority of U.S. airpower, and to a lesser extent the airpower of various coalition partners in the War on terrorism.

How U.S. airpower is applied, and more specifically how U.S. airpower is applied in the joint close air support arena, has been significantly different between the low intensity and conventional environments.

This difference begs several overarching questions in regard to close air support application in the low intensity conflict. Do we need to apply the same joint close air support doctrine in the LIC as we do in a conventional conflict? If not, do we need to develop a separate doctrine for JCAS in the LIC as opposed to the conventional conflict, and if so, how do we implement and validate such doctrinal changes?

Military Transformation pundits have postulated new concepts to transform our military so we can fight smarter, smaller, and quicker utilizing our technological advantage over the majority of the world today. Two such transformation 'buzzwords' include Precision Engagement (PE) and Decisive Maneuver (DM).⁴²

In the JCAS arena, PE and DM have particularly relevant application, as it is essential to the success of

⁴² Joint Vision 2020, JS J7, 18 Oct 2002

any close air support mission to maneuver decisively and then rapidly engage the target with precision delivered munitions. Joint Vision 2020 addresses the PE and DM concepts in general terms but the 'how to' in the JCAS arena has been overlooked, in this author's opinion. Operation Enduring Freedom and Operation Anaconda have provided us with some valuable lessons that can help us to transform our JCAS doctrine and then to validate its authority with joint training concepts such as the Joint National Training Center model.

B. JOINT COMMAND AND CONTROL

1. Overview

During recent hostilities in Afghanistan, several deficiencies and shortfalls arose during the execution phase of OEF and OA and still continue to plague U.S. Special Operations Forces in the Afghan theatre.

As detailed in the OEF and OA JCAS conference, listed below are some of the highlighted areas of concern from the after action reports and lessons learned from OEF and OA in regard to close air support execution:⁴³

- Lack of understanding of Commander's Intent.
- No dedicated Command & Control platform.
- No traditional Control Points (CP) were used.
- Standard Communications architecture not used.
- Standard communications and brevity codes not used.
- Lack of use of JCAS 9-line brief.
- Time-on-Target not used.
- No standard target mark was used.

⁴³ Marine Corps Gazette, "Tower of Babel: Joint Close Air Support in OEF", Mar 2003, pp 34-35

- Lack of good 'talk-on' by ground controllers.

These are just some of the items that were addressed at the conference, and it must be noted that not all of these items applied to all of the missions. Merely, they were general trends that were noticed by aircrew and ground personnel alike, and hampered their ability to execute the mission as seamlessly as they would have liked. It must also be mentioned that these items did not prevent U.S. SOF personnel from accomplishing their mission but only made it more difficult and sometimes resulted in a Time Sensitive Target (TST) escaping destruction. This is something that can and should be avoided at all costs, especially with the possible strategic and political ramifications of a failed mission.

Though these deficiencies were overcome by SOF forces on the ground and by aircrew flying the missions, this by no means indicates that the problems have been fixed or are in accordance with current doctrine. This leads us back to the question of 'Do we need to change our current JCAS doctrine for low intensity conflict operations', or do we simply need to adhere to and apply current doctrine?

2. Terminal Clearance Authority

As discussed earlier in this paper, the command and control that was exercised during OEF and OA was, at times, in direct conflict with JCAS doctrine. Specifically, the approval to drop ordnance in close proximity to ground forces rests squarely on the shoulders of the ground combat element commander as outlined in JP 3-09.3.⁴⁴ However, in

⁴⁴ JP 3-09.3, Joint Tactics, Techniques, and Procedures for Close Air Support (CAS), Washington: GPO, 1995, pp V-9

OEF and OA, that control was exercised from the CAOC in Riyadh, Saudi Arabia. It must be noted that there were political and strategic considerations for this but the point of this paper is to highlight that the CAS missions flown during OEF and OA were not IAW current doctrine; if this is necessitated by considerations above the tactical commander on the battlefield, it needs to be delineated beforehand. If not, the missed opportunities to prosecute time sensitive targets will continue to hamper an operation such as OEF if the Rules of Engagement are not delineated down to the lowest possible chain of command.

3. Lack of Multiple Tactical Air Direction Nets

The approval to drop on requested targets rested at the highest levels in Riyadh, and led to another command and control problem: that of a limited number of terminal control frequencies in relation to the number of terminal controllers on the battlefield. Because the CAOC was the approving authority for 'drop' clearance, multiple ground controllers were utilizing the same frequency for terminal control. This is again in direct conflict with joint doctrine that states that every terminal controller will have a discrete frequency, or Tactical Air Direction (TAD) Net, in order to prosecute targets in their specific AOR.⁴⁵ This single frequency allows the terminal controller to control and execute the CAS mission without interference or impediment from other controllers. The mission approval comes directly from the ground combat element commander that they are supporting.

⁴⁵ Ibid, pp II-3

4. Who is the GCE Commander in a LIC environment like OEF?

This brings up another interesting point regarding OEF and OA, which is the simple fact that terminal controllers were typically attached to SOF units that were, at times, working alongside Northern Alliance Forces. Since the Northern Alliance Forces had the preponderance of combat power on the ground, were they considered the 'ground combat element', and was their leader considered the GCE Commander? To U.S. SOF personnel, this was certainly not the case, as they were working directly for USSOCOM, even though they were providing CAS for the Northern Alliance Forces.

When OEF transitioned to the OA aspect and terminal controllers were now under the command of U.S. Forces, the procedures for requesting CAS did not change and it is here that the most confusion occurred. The CAOC in Riyadh should have transitioned approval authority back to its rightful location, that of the GCE Commander. Since this did not happen, multiple controllers were using only a few frequencies to control CAS assets, leading to confusion and frustration on the battlefield.

5. Joint Command & Control Architecture

Currently each service has its own C&C system to allow it to execute the close air support mission. The USMC has the MACCS (Marine Air Command and Control System), the USN has NTACS (Navy Tactical Air Command and Control System), the USA has the AAGS (Army Air Ground System), and the USAF has the TACS (Theatre Air Control System).

It would seem that in this current climate of joint operations that each service could agree on a joint C&C

system. When a JTF is established and the JTF commander picks his Joint Force Air Component Commander (JFACC), whose C&C system is to be utilized? Is it one, some or all of the services? In OEF, you had Navy tactical aircraft flying from the CVBG's under NTACS, Marine tactical aircraft flying off the ARG's under the MACCS and USAF tactical aircraft flying out of points within the Persian Gulf under the TACS system. It could be argued that a joint air command and control system could be utilized by all the services so that they don't have to switch from one to the other as they transition in and out of the respective air traffic control areas. This thesis' contribution to joint command & control would be the JTACCS or Joint Tactical Air Command and Control System. This would enable any service to 'plug' into JTACCS from anywhere in the world, whether from a NAVY CVBG or ARG, a USAF Expeditionary Airfield, or an Army or Marine Corps Forward Operating Base.

6. Conclusion

Up to now we have discussed JCAS at the inter-service level, assuming falsely sometimes, that service specific training in the JCAS arena is standardized. It could be argued that this is not necessarily the case. If change is required and the amount of change is established, how then do we validate any new doctrinal issues in training so our fighting men and women are not 'learning on the job' during the next conflict? In the following section, training issues will be addressed to offer possible solutions to new doctrine and the facilitation of training to validate any doctrinal changes.

C. TRAINING TRANSFORMATION

1. Overview

As stated previously, doctrinal misconceptions and misunderstandings can lead to confusion on the battlefield, but how different services arrive at the point of doctrinal departure is, in this author's opinion, directly related to parochial style training. In order to avoid the same pitfalls experienced in Operation Enduring Freedom, joint training needs to become the rule, not the exception. By transforming the way we train - to a joint standard, with joint forces, and in accordance with joint doctrine - we will better serve our own joint requirements. 'Re-inventing the wheel' is something we do routinely in the joint arena and until we truly transform the way we do business, it is likely to continue.

The proceeding items listed below are some of the ways we can address joint training shortfalls. It must be noted, however, though this is by no means a comprehensive list, only a starting point that will allow our joint forces to tackle the current problem of joint interoperability in the joint close air support arena.

2. Joint National Training Center

Several Military Transformation concepts could have helped and may help in the future execution of JCAS in the low intensity conflict. One such concept is the Joint National Training Center (JNTC). JNTC is a virtual connectivity concept that would allow battlefield commanders the opportunity to operate as part of a virtual 'joint force' without the need to co-locate forces. As an example, U.S. Army Forces operating at the Joint Readiness Training Center at Ft. Polk, LA and U.S. Marine Forces

operating during annual training at Twenty-nine Palms, Ca, could operate as a larger, virtual force, under the umbrella of a larger, virtual operation. This could be accomplished at the same time these forces are conducting their normal annual training. Typically a Brigade Combat Team will take part in a JRTC rotation while a MEU-sized Marine Air Ground Task Force will take part in a Combined Arms Exercise (CAX) at 29 Palms. If both units were 'assigned' to a larger, virtual unit, such as a Joint Task Force and tasked with a joint mission that accomplished the goals of a JRTC rotation or a CAX rotation, it could serve to validate, under the construct of operational experimentation, the JNTC concept. In this case, it would be the JCAS mission in the low intensity conflict. A JNTC training experimentation conducted with an OEF model could help future joint force commanders in working out the intricacies of JCAS when conducted in the low intensity conflict. It would identify any deficiencies and trends over the course of several experimentations and allow for remedies before our joint forces were deployed.

3. Transform Joint Training Mandate

Unless a specific military command is given the mandate from the CJCS, it is my opinion that a training mandate to change the status quo likely will not happen. This is for a variety of reasons but the most compelling is the parochial and bureaucratic way in which the services do business.

If a mandate were established by the CJCS, (and for the sake of this argument let us say it is the Joint Forces Command (JFCOM) that is tapped to produce a Joint Training

Program that all the services are required to accomplish), standardization amongst the services would quickly follow.

4. Single Site Training for JCAS JTTP's

This might be the hardest item to sell to all the services and may be a 'bridge too far' but the fiscal savings alone might be enough motivation to get the services to train together at a joint schoolhouse.

a. Fiscal Savings

Currently there are two training sites in the U.S. Marine Corps: the Expeditionary Warfare Training Group Atlantic (EWTGLANT) in Little Creek, VA and the Expeditionary Warfare Training Group Pacific (EWTGPAC) in San Diego, CA. The USAF has two training sites as well, Nellis Air Force Base in Las Vegas, NV and Hurlburt Field at Eglin Air Force Base, FL. Additionally, the U.S. Navy has one training site, Naval Strike Aviation Warfare Center at Naval Air Station Fallon, NV. The fiscal savings alone that a single-site training complex would realize over the course of a fiscal year could easily persuade the most ardent parochialist to consider the financial benefits of such a shift.

b. Inter-Service Familiarity

Although some cross training does occur at each training site, the familiarity that each service member would be exposed to in terms of joint aircraft would be far ahead of the current state of cross-training and joint familiarity. As an example, actual combat operations is not the ideal situation for an Air Force ETAC to see a Navy F/A-18 for the first time to provide him with close air support. Equally as untimely would be a U.S. Navy SEAL controlling an AC-130 Specter Gunship for the first time

during an extract under fire. What is compelling about these two scenarios is that they occurred on more than a few occasions during OEF and OA. It is imperative that our deployed forces see and employ the complete array of tactical aircraft during close air support while in training, not on the actual battlefield for the first time.

The benefit of having all the services providing close air support assets to a single JCAS schoolhouse would be highly advantageous to ground controllers and aircrew alike. This is not just limited to tactical aircraft familiarity but also ordnance, weapon systems, target sensors, trackers, communications hardware and joint doctrine familiarity.

D. CONCLUSION

The task to truly become an interoperable joint force may seem to be a daunting task on the surface but there are, at least in the close air support context, several mainstream concepts, ideas and initiatives that will go a long way in developing our joint close air support interoperability. Joint command and control, joint training and adherence to joint doctrine are the main points that this paper is trying to draw to the reader's attention. If these items were addressed fully and embraced by all the services, operations such as Afghanistan, Somalia and other low intensity conflicts would have been accomplished with greater speed and with less service friction. In the case of Joint Close Air Support in the low intensity conflict, this should be every Warfighter's goal.

Some might ask the question, "Why should the topic of Joint Close Air Support matter to a Marine Attack

Helicopter Pilot?", since the Marine Corps has its own tactical aircraft to provide close air support for its own forces. This may seem like a logical question since the Marine Corps is the only service that does not provide operational forces to USSOCOM, but it does not address recent initiatives on the part of the Commandant of the Marine Corps to stand-up an operational reconnaissance force that will be under the operational control of USSOCOM.⁴⁶ By tasking the newly formed unit, the US Marine Corps has come full circle in its effort to embrace the concept of joint interoperability, and as a result, U.S. Marine tactical aviation needs to adopt this new paradigm of operating in the joint arena.

As a final note, and as described in the introduction of this thesis, the ability to deliver precision ordnance against hostile targets is not without risk to our own forces on the ground. Unless we embrace inter-service training and doctrinal adherence, we will most likely continue to injure and kill our own forces in future conflicts where we operate at the joint level, such as the current War on Terrorism. Since the War on Terrorism will not likely end any time soon, the status quo in Joint Close Air Support training and doctrine is unacceptable and needs to transform. At best we can accomplish future missions more safely with a joint system of training, doctrine and certification. At worst, we will continue to haunt ourselves in the form of needless deaths on the battlefield due to friendly fire.

⁴⁶ Perry, Tony, "Marines Set Aside Go it Alone Attitude", *Los Angeles Times*, 12 May 2002, pp. 18

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