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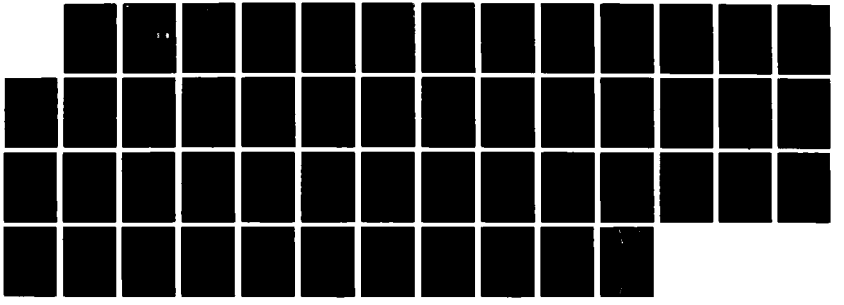

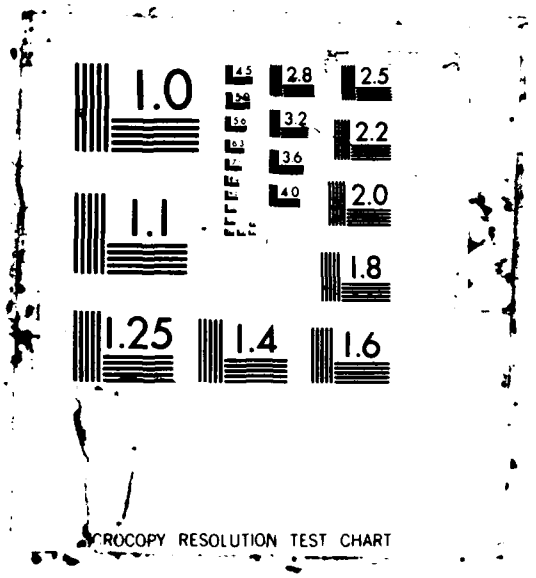
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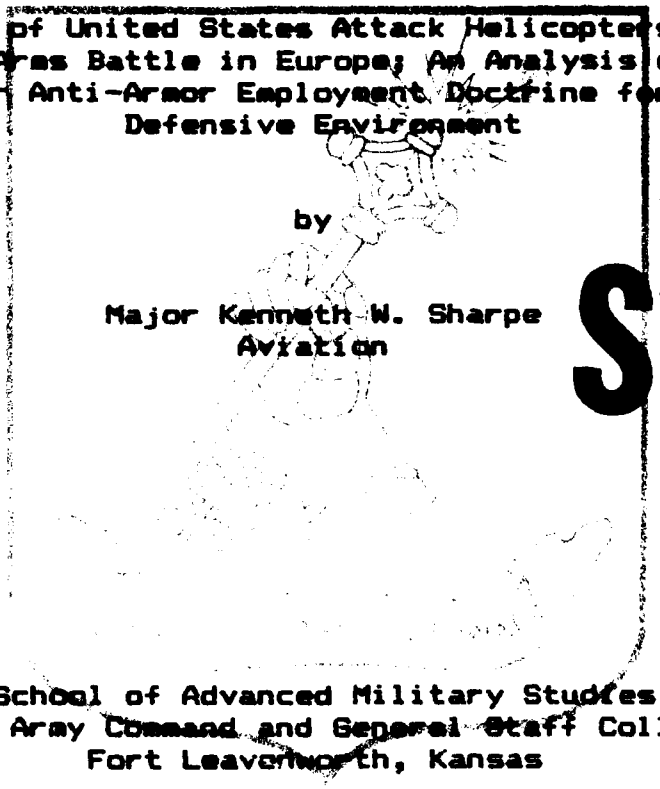

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30 November 1986

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This monograph evaluates the employment doctrine for the Army-of-Excellence attack helicopter battalion. It examines whether the organization's doctrine is maximized for effectiveness in the NATO environment. Emphasis is placed on the attack battalion participating as a member of the combined arms team on the AirLand battlefield. Consideration is also given to the degree to which other members of the combined arms team understand and accept aviation employment doctrine.

Current employment doctrine was taken from Field Circular 1-111, Combat Aviation Brigade (1985), and Field Circular 1-112, Attack

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The monograph's conclusion indicates a need for improved doctrine. The overall direction and philosophy for attack battalion employment is correct; however, the necessary degree of detail required for effective, standardized implementation on a potential NATO battlefield is missing. Additionally, employment considerations for the AH-64 battalion, as described in Field Circular 1-112, are not significantly different from those of the AH-1S battalion. The monograph concludes that the difference in technology may require a modified employment doctrine which, in turn, might necessitate a change in the ratio of attack to scout helicopters.

Integration of United States Attack Helicopters Into the Combined Arms Battle in Europe; An Analysis of Attack Helicopter Anti-Armor Employment Doctrine for a NATO Defensive Environment

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ABSTRACT

Integration of United States Army Attack Helicopters Into the Combined Arms Battle in Europe; An Analysis of Attack Helicopter Anti-Armor Employment Doctrine for a NATO Defensive Environment. by MAJ Kenneth W. Sharpe, USA, 41 pages.

This monograph evaluates the employment doctrine for the Army-of-Excellence attack helicopter battalion. It examines whether the organization's doctrine is maximized for effectiveness in the NATO environment. Emphasis is placed on the attack battalion participating as a member of the combined arms team on the AirLand battlefield. Consideration is also given to the degree to which other members of the combined arms team understand and accept aviation employment doctrine.

Current employment doctrine was taken from Field Circular 1-111, Combat Aviation Brigade (1985), and Field Circular 1-112, Attack Helicopter Battalion(1985). A theory of anti-tank warfare derived from the work of Richard Simpkin and the historical example of World War II tank destroyers provides the analysis background. Evaluation of employment effectiveness was developed from observation of attack helicopter units at the National Training Center (NTC), and evaluation reports compiled by the staff of the NTC.

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Integration of United States Attack Helicopters Into the Combined Arms Battle in Europe; An Analysis of Attack Helicopter Anti-Armor Employment Doctrine for a NATO Defensive Environment

I. INTRODUCTION

U.S. Army attack helicopter employment doctrine has evolved since the Vietnam era. The emphasis is no longer on providing escort for airmobile operations and close-in fire support for foot infantry. On the AirLand Battlefield, emphasis now is on the use of the attack helicopter as an anti-tank asset for mid-to high-intensity conflict. Much of the evolution can be traced to changes in the threat facing U.S. forces. But many changes are a result of the doctrinal growth which has occurred from the 1970s to the present as part of the move from Active Defense to the doctrine of AirLand Battle.

The mobile defensive doctrine employed by the Reorganization Objectives Army Division (ROAD) of the Vietnam era used attack helicopters almost exclusively for close-in fire support for infantry and air escort for other helicopters. (1)

> "Attack helicopters are integrated with the plan of maneuver of land combat forces and deliver responsive, on-call, direct aerial fires in support of ground maneuver elements. The attack helicopter mission commander must understand the tactics and employment of

the ground unit and be familiar with the plan of action so he can recommend to the force commander the best utilization of attack helicopter elements to support accomplishment of the force commander's mission." (2)

The rapid evolution of U.S. Army doctrine from Active Defense to AirLand Battle necessitated the modification of both organizational structure and employment doctrine for attack helicopters, to include more emphasis on offensive action designed to attack the enemy force in depth. (3) The United States Army's Training and Doctrine Command (TRADOC) issued seven key force structure guidelines to the aviation combat development directorate, designed to produce an attack helicopter organization capable of fully implementing the new tactical doctrine. (4) These guidelines resulted in the conversion of the basic attack helicopter fighting element from the H-series attack helicopter company (Figure 1) to the J-series attack helicopter battalion (Figure 2).

The question yet to be answered in combat is: how well does the attack helicopter battalion fit the requirements of the AirLand Battle doctrine? More specifically, is the employment doctrine for this expensive member of the Combined Arms Team optimized for employment on the NATO battlefield, or are changes required? Is the attack battalion capable of efficient integration into battle with the other members of the combined arms team under what Clausewitz calls the friction and fog of battle?

A war in Europe is the least likely of all conflicts in which the U.S. might become involved. However, potentially, such a conflict presents the most risk to the survival of the United States. Since success in Europe is measured by the ability of NATO to deter war, it follows that the major requirement of the U.S. military support to NATO is to convince the Soviet Union that it would not be able to achieve a rapid, conventional success. The effectiveness with which U.S. forces are able to destroy Soviet armor will significantly affect the degree to which the Soviet leadership will be deterred.

Since success in NATO is the deterrence of the Warsaw Pact from aggressive acts, a primary requirement for the U.S. Army, in conjunction with its NATO allies, is to develop the most effective defensive capability possible within its means. This requirement does not lessen the need for an offensive capability. As MAJ George S. Webb wrote in his School of Advanced Military Studies monograph on counterattacks, "While this study is not a treatise on schemes of defense, it is nonetheless evident that the counterattack is a primary factor in practically all of them." (5) Additionally, current Army doctrine stresses the need for offensive action in a successful defense.

This monograph examines doctrine for attack helicopter employment from a theoretical perspective. The focus is on the J-series (or Army of Excellence (AOE)) attack helicopter

battalion's employment doctrine in the conduct of a NATO tactical defensive operation in Europe. Does the current employment doctrine meet the needs of the AirLand battlefield? And does the doctrine have a firm basis in theory or is it simply a compilation of techniques which have built up over a period of time?

When evaluating attack helicopter employment doctrine, certain questions must be considered: is it appropriate for the required mission, is it accepted by both the aviators who must employ it and other combined arms team members who must work in conjunction with it, and is it fully understood by the combined arms team? Key factors requiring examination for an accurate evaluation of whether the attack battalion's employment doctrine is appropriate for the required mission generally follow the traditional army evaluation aid of mission, enemy, troops available, terrain factors, and time available (METT-T).

U.S. Army attack helicopter doctrine, detailed in FC 1-112, can be paraphrased as follows. Attack helicopters are organized into battalions which are assigned to either corps attack helicopter regiments or divisional combat aviation brigades. The attack battalions are maneuver units, not close air support. Therefore, they must be integrated into the commander's tactical maneuver plan. The objective of operations is the destruction of opposing armor and mechanized forces. The smallest maneuver unit to be employed

is the attack battalion, and the lowest echelon at which the battalion will integrate into the combined arms battle is the maneuver brigade. (6)

Attack helicopter doctrine contains two tenets which are either misunderstood or disagreed with by aviation tacticians and other members of the combined arms team. The first is the optimum organizational level at which to combine attack helicopters and ground combat systems. Many Army officers are not aware of the attack helicopter employment doctrine which cautions against placing attack helicopter battalions under the operational control (OPCON) of maneuver units lower than brigade level. They fail to recognize the degree to which tactical flexibility is degraded when an attack helicopter battalion is placed under the operational control of a ground maneuver battalion. The second doctrinal employment tenet for attack helicopters which causes confusion within the ranks of ground commanders concerns employment techniques for attack helicopter battalions after they have been placed under the operational control of a maneuver brigade. The issue is: should the attack helicopter battalion be retained as an integral maneuver battalion as doctrine requires, or should its attack helicopter companies be further placed under the operational control of different maneuver battalions?

Deviation from doctrine is acceptable but should only be undertaken in a conscious manner, following a thorough

evaluation of the situation and a determination that deviation is warranted. Army tacticians unaware of the Army's doctrinal level for operational control of attack helicopters are more apt to violate doctrine through ignorance of the factors involved than by a conscious decision, based upon situational factors, to deviate from doctrine.

Any study designed to assess how appropriate is an attack helicopter employment doctrine must be grounded in an overall theory of anti-tank warfare. The process of anti-tank warfare consists only of a few critical tasks: identify the enemy in time to react effectively, move the weapon system to engage the enemy, provide logistical support to sustain the effort, and train the soldiers to react appropriately.

The theory of anti-tank warfare is not so simple. Richard E. Simpkin, in his book Antitank, An Airmechanized Response To Armored Threats in the 90s, presents his theory of how a modern force might best defeat an armored foe. (7) Following an excellent, detailed discussion of various frameworks for interpreting battlefield results, Simpkin draws three major conclusions: the fight against tanks must be a combined arms affair, there is a role for independent anti-tank helicopter operations, and the most promising tactic against Soviet armor is the hammer and anvil.

Throughout his book, the focus of Simpkin's thoughts is

on relative mobility. In listing the priority of targets on the modern battlefield, he gives first priority to air defense weapons because they would reduce the ease with which aircraft (having the best relative mobility) would be able to kill tanks. Second priority is given to infantry fighting vehicles, which carry the infantry to protect the tanks. Third priority goes to gun- or missile-equipped tank destroyers. The main battle tank was listed below the tank destroyer because of the relative mobility differential.

Simpkin's emphasis on the role of attack helicopters was not at the expense of other members of the combined arms team. His book emphasizes the use of ambush by helicopters and the employment of artillery and rapidly scatterable mines to slow the enemy in kill zones. (8)

The question of whether to employ a pure system or a combined arms effort to combat the enemy has been resolved in favor of the combined arms effort. While discussing the phenomenon of tanks being used to defeat tanks, which he calls "like versus like," Simpkin states, "In sum, 'like v like' represents a useful constraint on thinking but a sterile and dangerous doctrine. The need is rather to concentrate all available effort, whatever its nature, in time and space against the opposing element which is critical at that point in time and space." (9)

II HISTORICAL EXAMPLE

The optimal way to defeat tanks and other mechanized

forces has been the subject of intense study by professional soldiers from the time of the tank's introduction to combat during the First World War. The dangers inherent in developing employment doctrine for an anti-tank system without firmly grounding the principles in an adequate anti-tank theory are illustrated by the failure of the employment doctrine for the World War II tank destroyer, which was the United States Army's first weapon system developed expressly to counter enemy armor and mechanized forces. There are many similarities between the tank destroyer battalion of World War II and the current attack helicopter battalion. As LTG RisCassi, then Commandant of the Command and General Staff College, said:

> "In the seventy years that have passed since the tank first appeared, antitank combat has presented one of the greatest challenges in land warfare. Dramatic improvements in tank technology and doctrine over the years have precipitated equally innovative developments in the antitank field. ... To the professional soldier of the 1980s, the tank destroyer experience yields some important lessons concerning the pitfalls of formulating doctrine." (10)

As was the case with many new weapon systems, a period of time was required to gather sufficient historical evidence

and testing data to form an effective employment theory. At the time of initial doctrinal development, tank destroyer battalions had no actual combat experience against an enemy which employed the anticipated tactics the anti-armor organization was developed to combat. In an effort to fill the void in combat experience, the Army gathered as much data as possible during the 1941 maneuvers in Louisiana.

World War II tank destroyer employment doctrine called for these weapon systems to be centralized at corps or field army and dispatched to a lower echelon as required by the enemy situation. This centralization did not work for the tank destroyers. Dr. Christopher R. Gabel, an associate professor in the Combat Studies Institute, U.S. Army Command and General Staff College, studied tank destroyers in detail. His analysis of why the tank destroyers were not more effective is summarized in the following:

"Not surprisingly, field commanders who received tank destroyer units refused to implement a doctrine that failed to account for the realities of the World War II battlefield. The inflexibility of Tank Destroyer doctrine resulted in its abandonment and led to the employment of the tank destroyers in extradoctrinal roles, albeit with a surprising degree of success. The flaws inherent in tank destroyer doctrine, rather than the misuse of tank destroyers by higher commanders or deficiencies in equipment, prevented the tank destroyers from performing their intended role." (11)

Centralization as an employment doctrine for tank destroyers failed for four primary reasons. First, the enemy threat was miscalculated. The enemy threat that tank destroyers were designed to defeat was characterized by massed tank formations -- "blitzkrieg" style. But the threat they actually faced was characterized by small numbers of tanks protected by infantry.

The second factor which degraded the ability of tank destroyer battalions to operate from a central location was a lack of mobility. The effective employment of the doctrine of centralization by tank destroyers required unimpeded mobility from where they were staged in the rear of the battlefield to where they were needed at the front line. Because of the large number of vehicles competing for road space, the relatively slow speed of tank destroyer vehicles, and lack of support by commanders who did not understand why the movement priority was necessary, the required mobility did not develop.

The third factor which caused centralization to fail as a doctrine was the failure of other commanders of the combined arms team to understand the principles upon which it was founded: mass, momentum, and flexibility. Because of this lack of understanding, tank destroyers were piecemealed and employed contrary to their employment principles in static defensive positions. Senior army commanders would parcel tank destroyer battalions to regiments which would

continue the piecemealing of units to the point where each tank destroyer became one vehicle in support of a squad of infantry. Thus, tank destroyers were reduced to providing static fire support and were prevented from fulfilling their role of a mobile anti-tank force as specified by the doctrine.

A major point of misunderstanding concerning tank destroyer doctrine arose between the World War II Tank Destroyer Center at Camp Hood and army commanders in the field. At issue was the basic purpose of tank destroyers: what was it the Army wanted them to do? Camp Hood wanted the destroyers to be used in a mobile counterattack role against enemy tanks which had penetrated the friendly lines, while field commanders wanted the tank destroyers to protect the infantry.

Finally, tank destroyer centralization did not work because the necessary predictive intelligence and rapid command and control network did not exist to provide the tank destroyers sufficient lead time to reach enemy tanks prior to their tanks inflicting damage on friendly infantry. Certainly this factor is related to the lack of responsiveness which resulted from the lack of mobility described above, but it is also deeply related to the failure of all members of the combined arms team to understand and adhere to the employment doctrine.

III ATTACK HELICOPTER BATTALION DOCTRINE

Current United States Army doctrine for attack helicopter battalion employment is found in FC 1-112, Attack Helicopter Battalion. FC 1-111, Combat Aviation Brigade, provides guidance for attack battalions from the aviation brigade perspective. FC 1-112 states that the primary mission of the attack helicopter battalion is

> "to destroy or disrupt massed enemy armor and mechanized forces by using aerial firepower, mobility, and shock.
>
> ...
>
> The (sic) battalions may also be assigned tasks to --
>
> (1) Coordinate and adjust indirect fires.
>
> (2) Reinforce, by fire, ground maneuver forces. ...
>
> (4) Suppress or destroy enemy air defense artillery (ADA) assets. ...
>
> (6) Destroy enemy helicopters that pose an immediate threat to mission accomplishment." (12)

Several operational capabilities are derived from the above battalion mission statement. The ability to acquire and engage enemy targets, both ground and air, before they are able to bring effective fire to bear on friendly forces is the primary requirement. Another is the capability to react to unexpected enemy successes quickly and effectively. The net result of these two capabilities is sufficient combat power to destroy, disrupt, or delay enemy forces in support of the higher level intent. The ability to sustain

operations logistically in a secure and flexible manner and a reasonable capability to operate in adverse weather conditions and in periods of restricted visibility are fundamental to successful accomplishment of the required capabilities.

Both manuals are new and incomplete. When aviation was designated as a separate branch of service in 1983, the United States Army Aviation Center at Fort Rucker became responsible for developing doctrine and publishing manuals. The branch school responsible for actually writing the manuals was started at the same time. The immensity of the task facing the school doctrine developers can best be understood by reviewing the number of manuals requiring modernization. MG Maddox, first branch chief, assumed responsibility for 69 separate items of doctrine, some of which were in desperate need of revision. (13) As of August 1986, the Aviation Center was writing or publishing 17 major doctrinal publications. The outcome of this huge requirement has been manuals which provide general guidance but in some areas lack specificity.

Examples of the lack of doctrinal guidance can be found in both FC 1-112 and FC 1-111. Chapter 5, FC 1-112, Attack Helicopter Battalion provides employment doctrine on defensive operations. Paragraph 5-6, page 5-19 discusses defensive operations in the rear battle area, seven lines of printed text and one schematic diagram providing an attack

battalion's guidance. "Rear battle coordination between artillery, CAS, and attack helicopter units must be accomplished." More detailed instructions are not provided. Nowhere does the doctrine explain what needs to be coordinated or how the coordination should occur. Specific instructions of this nature are necessary to ensure effective integration of the various elements of the combined arms team. Compare the aviation manual with FM 71-2J, The Tank and Mechanized Infantry Battalion Task Force (Coordinating Draft). The section describing rear area security missions contains detailed, specific guidance and a checklist of items which need coordination. (14)

Another example of lack of guidance in FC 1-112 is Chapter 2, Command, Control, and Communication. This chapter is twelve pages of double spaced, general, nonspecific guidance. FM 71-2J contains 69 pages of single spaced, detailed, specific guidance. The point of this discussion is the lack of doctrine available to aviation junior leaders. The "text book" is not adequate. (This comment is not directed at the personnel of the Aviation Center who have done sterling work just to get the publications out at all.) The two immediately preceding versions of FC 1-112 (FM 17-50, dated 4 May 1984, and 1 July 1977) contain even less information on the above two topics.

The lack of comprehensive doctrine leads to individual units expanding their Tactical Standing Operating Procedure

(TACSOP) to cover the voids. The TACSOP becomes a large document rather than a small pocket-sized reference book. Additionally, different battalions develop different ways of accomplishing routine tasks, a practice which degrades standardization amoung different units and is more complicated for supported maneuver brigades. (15)

The above critique of aviation doctrinal publications focuses on the lack of specific information. The information in the publications can be characterized as giving broad guidance as to what generally must be done to accomplish the mission. In addition to the broad guidance, specific information is required detailing the component requirements which comprise the general guidance.

Articles in professional journals have helped provide information needed to fill the gap in specific guidance found in doctrinal publications. Unfortunately, with few exceptions, the information contained in the articles is neither accepted as doctrine nor widely distributed. An article by CPT Robert Johnson (16) about the developmental tests of the AH-64 provides an excellent source of detailed information for employment doctrine. Each step of the attack sequence outlined by the author is described in detail. The clear, accurate description of the factors involved in premission planning and tactical employment during defensive operations provides a standard toward which official publications should strive.

CPT Johnson's article provides an example for attack helicopter employment doctrine from an aviation unit perspective. An article by MG Frederic Brown, Chief of Armor Branch, provides an example of the degree of detail possible in employment doctrine from a large unit perspective. His description of the integration of attack aviation into a combined arms battle is a masterful blend of overview and specific execution. It is not the contention of this paper that doctrinal publications should have the style of a magazine article. Both articles would require revision for use in field manuals. However, the specific details contained in the articles are missing in current manuals and could easily be included.

How well does attack helicopter employment doctrine work? How well is it executed by the soldiers in the field? An examination of the current attack helicopter employment doctrine reveals an organization generally well-designed to meet its missions. There are, however, areas which need evaluation for possible improvement.

During a visit to the National Training Center at Fort Irwin, in August 1986, several students from the School of Advanced Military Studies were able to watch attack helicopters support a mechanized infantry battalion task force in a defensive scenario. The unanimous opinion of the observers was that there were two different battles taking place simultaneously. The synchronization and coordination

between the air and ground forces which could have generated sufficient combat power to defeat the enemy was missing. (17) The attack helicopters produced very few kills and suffered several losses. Unfortunately, this was not an unusual outcome.

Several undesirable conditions result from the poor showing of aviation at the National Training Center: soldiers loose confidence in their ability to fight, the bond between members of the combined arms team grows weaker, and soldiers learn bad habits. An unofficial theme of the National Training Center is, "We fight as we train." There is no reason to believe the difficulty experienced by attack aviation in working effectively with ground maneuver forces at Fort Irwin would not be evident in actual combat. A major cause of the lack of efficient integration of aviation and ground maneuver forces is the absence of detailed doctrine.

Is aviation employment doctrine flawed, or is there another reason for the inability of attack helicopters to succeed? An examination of aviation employment at the National Training Center reveals possible answers. Doctrine seems appropriate for the mission; the problem stems from the lack of specific guidance. The result, then, is the soldier's inability to carry out the doctrine. A good example is FC 1-112, which specifically requires coordination between the ground maneuver unit and the attack helicopter unit. However, as discussed before, the detail necessary for

effective execution is missing.

Of necessity, unit tactical standing operating procedures normally fill the void left by doctrine. For several reasons this is not a desirable solution. Peculiarities of commanders make standardization between units operating under their individual unit procedures a matter of luck. Without standardization, habitual association between the members of the combined arms team becomes critical. The benefit accrued from habitual association is a well known enhancement for units which must work together. Unfortunately, it is often not always possible for the ground battalion at National Training Center to work with habitually associated aviation units. The realities of unit funding, reduced availability of aircraft because of maintenance problems, and scheduling conflict which prevents units from deploying together, result in many of the aviation units being ad hoc groupings with little unit cohesiveness. Because of these realities, habitual working relationships are rare and combat effectiveness is degraded. Thus, standardization is a critical factor in aviation employment doctrine.

Tank destroyer employment doctrine, flawed by an incorrect evaluation of the threat, was ignored by senior Army commanders in World War II. It did not fill the needs of the combat forces. Attack helicopter employment doctrine is suffering from an acceptance problem also, but from a

different cause.(18) A misunderstanding of aviation employment principles by ground commanders and lack of understanding of ground maneuver on the part of aviation commanders creates a gap which is difficult to bridge.

Aviation anti-tank doctrine, as outlined by FC 1-112, fits in well with the anti-tank theory developed by Simpkin. The problem lies with the ability of Army aviation to execute the doctrine as described. This problem, as addressed earlier, derives primarily from vagueness and non-specificity in the description of employment doctrine. The manifestation of the doctrinal shortfall is poor performance by aviation forces during combined arms training exercises.

Having examined current anti-tank helicopter employment doctrine, it is now possible to review it for potential flaws. The failure of tank destroyer doctrine in World War II provides an excellent framework for examination. Briefly, the four main reasons for the failure of the tank destroyer's doctrine, as discussed earlier in this paper, were: a bad assessment of the enemy, inadequate tactical mobility, poor understanding of employment doctrine by Army commanders, and inadequate intelligence. Frequently intelligence about enemy tanks was available but the command, control and communication network was unable to pass it to the tank destroyers in time for them to react to the threat.

Another reason for the inability of tank destroyers to operate as the doctrine required was their inability to move

around the battlefield rapidly. To a certain degree, corps and divisional attack helicopter battalions have the same centralization concept as the tank destroyer battalions of World War II. However, attack helicopter battalions possess excellent tactical mobility from one part of the battlefield to another. They can establish a holding area in one brigade's area and react to an unexpected threat in another area. Thus, they are not subject to the same pitfalls which prevented the tank destroyer battalions from successfully following their employment doctrine.

An additional problem faced by attack helicopters which affects their mobility is the impact of adverse weather. Current aircrew training and equipment capabilities make helicopters extremely vulnerable to bad weather conditions. For example, dense fog which would merely slow ground vehicular movement will totally stop helicopter movement. New technology will reduce the impact of poor visibility and, to a certain degree, improve the helicopter's ability to fly in icing conditions. But for the foreseeable future, aviation maneuver will be more prone to restriction from the weather than will ground maneuver elements. (19)

Army commanders of tank destroyers disregarded employment doctrine because they disagreed with keeping tank destroyers in the rear. Disagreement with or the lack of understanding of aviation employment doctrine by other members of the combined arms team is potentially the most

damaging factor affecting the effectiveness of attack helicopters in their primary role of killing enemy armored formations. One of the fundamental principles of U.S. Army aviation employment doctrine is centralization. A key question which must be examined is: will centralization work for attack helicopter battalions although it failed for the tank destroyers?

The difficult question of the appropriate level at which to combine attack helicopters with other members of the combined arms team (company, battalion, or brigade) is answered through analysis of the purpose of the anti-tank force: to protect infantrymen, destroy armored formations which have penetrated the forward line of own troops (FLOT), or to conduct attacks across the FLOT against targets deep within the enemy's rear area prior to their ability to join the close-in battle. The dispute between Army officers centers upon the question of whether the centralization of attack helicopter battalions under the divisional combat aviation brigade or the corps attack helicopter regiment actually enhances the responsiveness of the battalions to the fight. There exists little dispute about the tactical mobility of attack helicopters, given the minimum weather conditions required for flying. The question remains, has the improvement in the Army's command, control, communication, and intelligence capability overcome the responsiveness lag which plagued the tank destroyer?

Airland Battle requires the J-series attack helicopter battalion to accomplish all the missions listed above, but makes the close-in reaction to massed armored formations the top priority, followed by the beyond FLOT operation. Because of the inherent flexibility derived from the tactical mobility, attack helicopter battalions must be under the control of a headquarters capable of monitoring the activities surrounding the immediate battlefield. Certainly this is no lower than the maneuver brigade.

The last major factor discussed in the demise of the tank destroyers was the inability of the tank destroyer to react to the enemy rapidly. Attack helicopter doctrine takes advantage of the improved intelligence collection and analysis capability found in the modern corps and division. Enemy tanks can be located and that location passed to attack helicopter battalions rapidly.

IV IMPLICATIONS

Although current attack helicopter doctrine is suitable for defensive operations in NATO, there are areas which should be reexamined. For example, little information is published about the employment differences between a divisional and a corps level attack helicopter battalion. The dynamics of the battle at division level will tend to focus attention on the sector immediately to its front. Intelligence gathering and indirect fire weapons are directed, primarily, against the enemy's first echelon

regiments. Therefore, the divisional attack battalion's role is predominantly reactive in the close-in battle.

On the other hand, the corps has more assets with which to track the battle. The intelligence picture is broad enough for the attack battalion's employment in rapid, flexible operational maneuver. Under the control of a corps regiment, the attack battalion becomes an ideal weapon for the requirements of a flexible, rapid tempo, offense-oriented defense; a type of defense which Clausewitz calls, "a shield of well-directed blows." (20) A recent study done by the School of Advanced Military Studies and subsequently released by the Center for Army Tactics at Fort Leavenworth described the difference as follows. "As limitations exist within the division aviation brigade which necessitate a focus on ground-paced maneuver, there are unique capabilities that exist in the corps aviation brigade which enable it to focus on conducting high tempo air maneuver." (21)

Doctrine deals with more than operational and tactical employment techniques, it also includes force structure. Changes in force structure from the old H-series attack helicopter company to the J-series attack battalion have been characterized by some people as nothing more than a name change and the addition of a lieutenant colonel battalion commander. This characterization is too simplistic. Many changes were made to accommodate the evolving philosophy of Army organizational design, while other changes were designed

to improve the unit's capability for continuous operations. One change, though, reduced the commander's task organization flexibility. In the old attack helicopter company (FIG 1), the aircraft were grouped into three platoons of attack helicopters and one platoon of scouts. The commander then task organized platoons (FIG 2) as the mission required. The force structure doctrine for the J-series attack battalion (FIG 3) reduces this flexibility. Each subordinate company of the battalion has a mix of four scout and seven attack helicopters fixed by the table of organization and equipment (TO&E). It is possible to change the ratio, but to do so requires mixing aircraft and crews from different companies.

The doctrinal mix of scout to attack helicopters in the company is also an area which should be studied. When the AH-64 replaced the AH-1S, in recognition of the increased maintenance availability of the AH-64, the number of attack helicopters in each battalion was reduced from 21 to 18. The design criteria in both cases is to field three attack helicopter companies capable of launching five attack and three scout helicopters. There is no design factor in anti-armor theory which makes five attack helicopters a more effective number than four or six. The rationale for retaining the three by five mix is difficult to trace. The French and British, though not operating as attack units in the same sense as the U.S. Army, tend toward small flights of one or two helicopters. The West Germans employ flights of

seven helicopters, six armed and one scout. The Soviets tend toward flights of two or four. (22)

Results of division and corps level First Battle war games conducted by the School of Advanced Military Studies indicate the ratio of scout to attack helicopter might require reevaluation in the attack battalion equipped with the AH-64. Reevaluation is required because the system which limits the ability to rapidly mass and sustain fire may have changed from the attack helicopter to the scout.

Attack helicopters destroy enemy armor with anti-tank guided missiles (ATGM). The critical factor in killing the tank is the system which guides the missile to the target. The AH-1S Cobra (which is armed with the tube-launched, optically tracked, wire-guided (TOW) missile) launches and guides the missile. However, the AH-64 Apache (which is armed with the helicopter-launched, fire and forget (HELLFIRE) missile) has a different system. Survivability of the Apache is enhanced when a different system guides the missile to the target. The designating system can be an OH-58D scout helicopter; a soldier operated, ground mounted laser locator-designator (GLLD); a different AH-64; or, as the last option, the same AH-64 which launched the missile.

Another advantage of the Apache firing HELLFIRE missiles over the Cobra firing the TOW is volume of fire. The more missiles launched in a given period of time, the better the outcome of the engagement. An anti-armor helicopter attack

against moving enemy vehicles is, in reality, an ambush. A rapid rate of missile fire is a necessity.

The critical link in the launch rate might now be the scout helicopter. Also, the number of attack helicopter battalions is limited by the number of Apache helicopters the Army can afford to buy. Because of these facts, a close examination should be conducted into the potential for creating more attack battalions by changing the mix of attack and scout helicopters in the AH-64 battalion. Additionally, placing more OH-58D model scout-designators in the attack battalion would allow the AH-64 to launch more missiles at targets during an engagement. Such a modification would also reduce the vulnerability of the AH-64 in two ways: there would be more scouts to provide security for the gunships, and the AH-64 would suffer less attrition while launching missiles in the remote mode.

V CONCLUSION

Simpkin's theory of anti-armor warfare identifies mobility, flexibility, and a tank killing weapon as the critical elements of an effective anti-tank system. He believes attack helicopters are the weapon systems which possess the necessary attributes to form the nucleus of NATO's anti-armor force.

United States Army attack helicopters are a significant part of the defensive shield which NATO forms against potential Soviet aggression. To this end, employment

doctrine has changed over time to meet the twin requirements of a changing enemy threat and to align more effectively with an offensive oriented U.S. war fighting doctrine. Understanding the requirement for aviation integration into the overall scheme of maneuver of the ground commander is a key to the successful outcome of battle. Successful integration of aviation requires that it be done at the proper level of command.

Fundamental to the successful employment of attack helicopters in the Army is their employment in integral battalions. The battalion is then employed with other aviation elements under the command of either a divisional combat aviation brigade or corps aviation regiment. An alternate control relationship places the attack battalion under the operational control of a maneuver brigade. The maneuver brigade is the lowest organizational echelon which has the capability for effective integration of attack helicopters into the scheme of maneuver. Some officers are uneasy with the prohibition against placing attack helicopters under the operational control of ground maneuver battalions. These officers have been raised on the heritage of task organizing battalion level task forces. They fail to recognize the factors of optimum engagement range, relative tactical mobility, and terrain impact on engagement areas which make task organizing a ground battalion with attack helicopters unwise.

Though basically sound, all is not well with current U.S. attack helicopter doctrine. Implementation and execution of key elements of the doctrine have not yet reached the level necessary for full realization of the potential effectiveness of air-ground cooperation. Training with other members of the combined arms team can and must be improved. (23) A weak link in gaining the required working efficiency between attack helicopters and ground forces is the degree of specificity of aviation doctrinal manuals. A comparison of FC 1-112, Attack Helicopter Battalion, against the coordinating draft of FM 71-2J, The Tank and Mechanized Infantry Battalion Task Force, shows the lack of specific information. Aviation commanders and staff officers need more complete doctrinal manuals for guidance and information. Doctrinal publications which are comprehensive and easy to understand are even more important when opportunities for training are limited. Opportunities for attack battalions to train with a deployed ground brigade are limited by training funds and suitable training ranges. Experience at the National Training Center demonstrates the need for improved coordination between attack helicopters and the ground force.

Doctrine for attack helicopter employment has, to this time, been oriented toward the AH-1 Cobra. The Cobra, a first generation anti-tank helicopter, must guide the anti-tank missile to the target. The new anti-tank helicopter is

not limited to self guidance. Current published doctrine for the AH-64, Apache, attack battalion is limited to a few entries in FC 1-112 which recognize differences in organizational structure and communication capabilities. Doctrine for the Apache must not be a modification of Cobra doctrine. Certainly those elements of anti-tank theory which apply to helicopters will remain valid but the most effective employment doctrine may prove to be different from that of the Cobra. Scout helicopters in the Apache battalion are capable of guiding missiles to the target. This capability both increases the number of targets which the Apache can engage simultaneously, and adds to the survivability of the attack helicopter. The ratio of attack to scout helicopters may change based upon the shift in roles as may the engagement tactics.

Integrated properly into the overall scheme of maneuver, attack helicopter battalions possess the agility and speed necessary for employment throughout the depth of the AirLand battlefield. Only through proper cooperation of all members of the combined arms team will the U.S. Army pose a credible deterrence to the Warsaw Pact.

APPENDIX

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B. Endnotes 35

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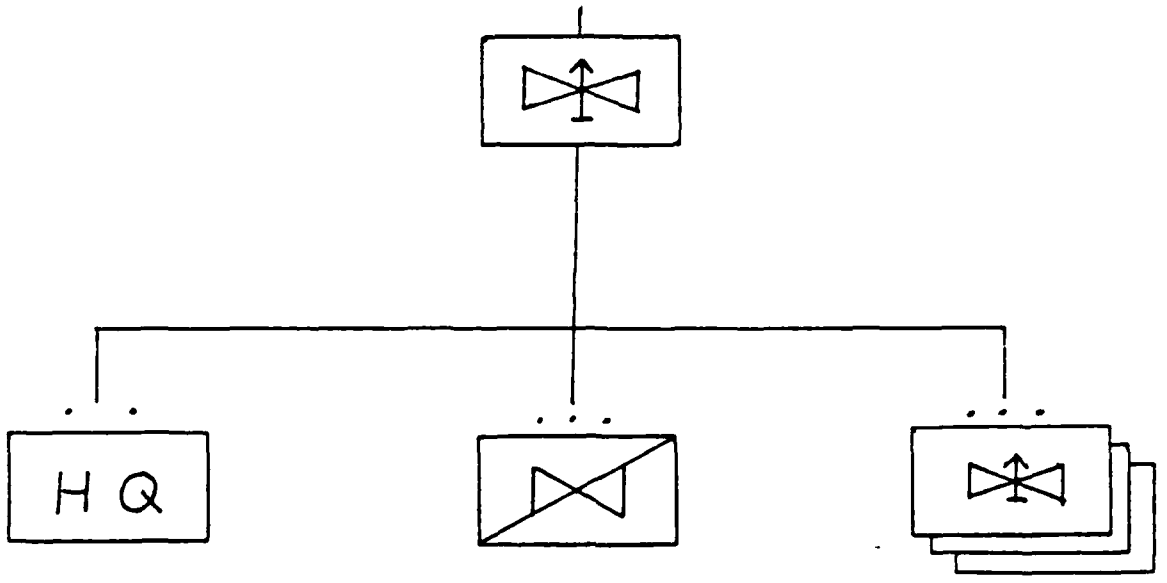


Company Commander

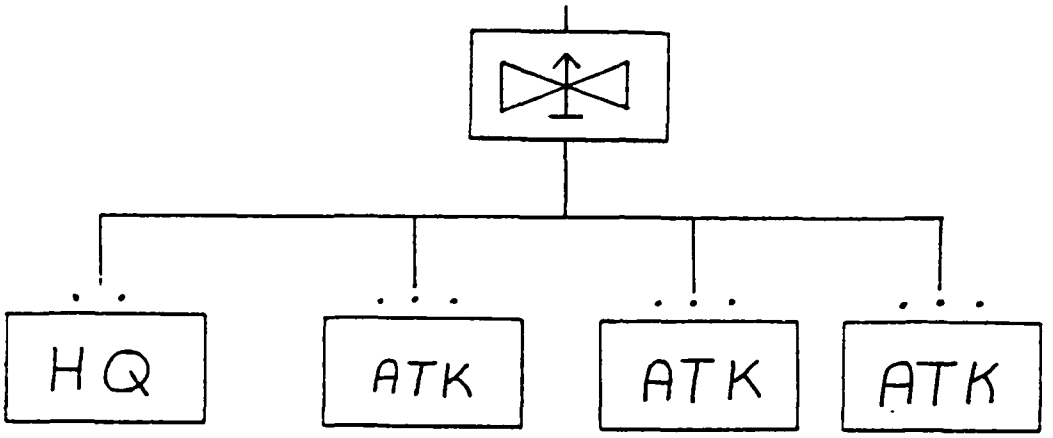
1 Platoon Leader
3 Section Leaders
8 Aeroscout Pilots
12 OH-58 Helicopters

1 Platoon Leader
2 Section Leaders
11 Attack Pilots
7 AH-1S Helicopters

AH-1S ATTACK HELICOPTER COMPANY

H-Series TOE

FIG 1

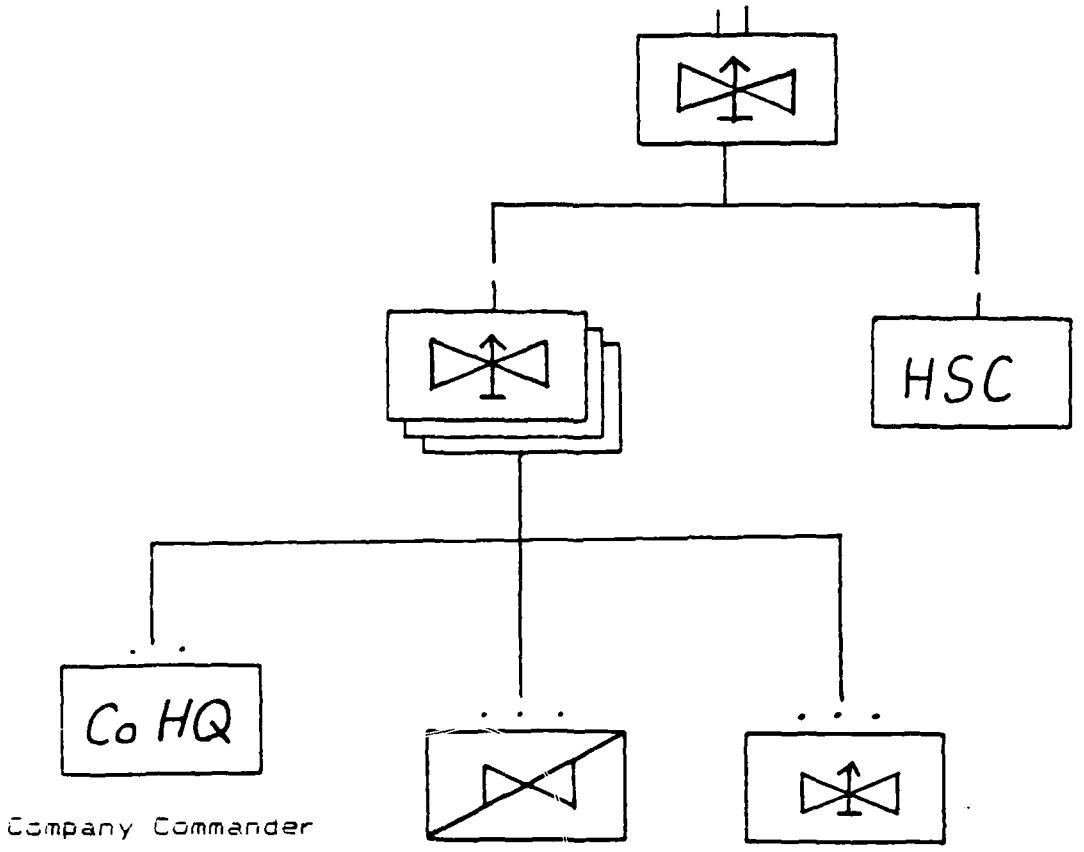


HQ	ATK	ATK	ATK
Company Commander	1 Plt. Ldr.	1 Plt Ldr	1 Plt Ldr
1 Platoon Leader*	2 Sect Ldrs	2 Sect Ldrs	2 Sect Ldrs
	4 'Sct Plts	4 'Sct Plts	4 'Sct Plts
* 4th Platoon	15 Atk Plts	10 Atk Plts	7 Atk Plts
Leader can act	4 OH-58	4 OH-58	4 OH-58
as liaison officer	9 AH-1S	7 AH-1S	5 AH-1S
to supported unit.			

AH-1S ATTACK HELICOPTER COMPANY
H-Series TOE

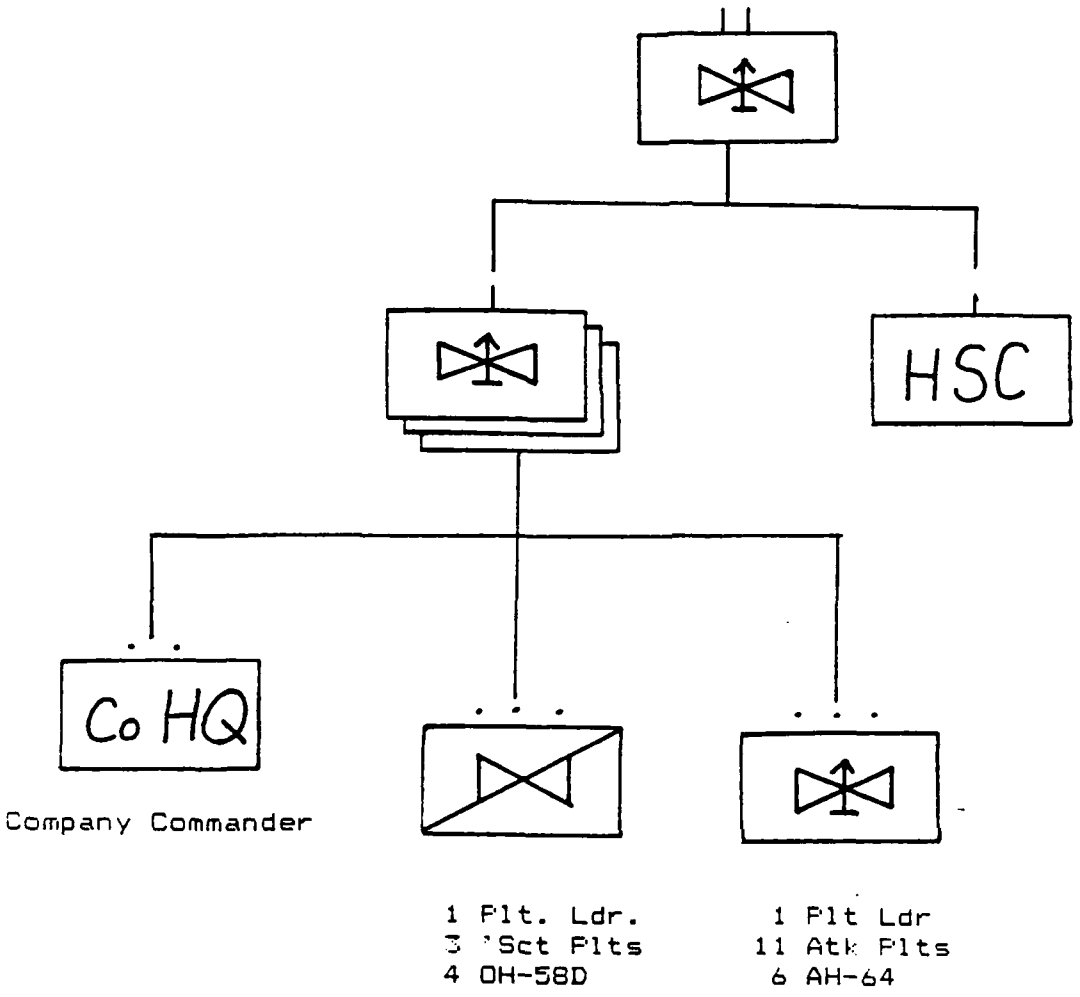
(SAMPLE TASK ORGANIZATION)

FIG 2



ATTACK HELICOPTER BATTALION (AH-1S)
J-Series TOE

FIG 3



ATTACK HELICOPTER BATTALION (AH-64)
J-Series TOE

FIG 4

ENDNOTES

1. A detailed discussion of the ROAD division and how it evolved is beyond the scope of this paper. For a complete discussion, refer to MAJ Robert A. Doughty, The Evolution of US Army Tactical Doctrine, 1946-76 (Fort Leavenworth, Kansas: U.S. Army Command and General Staff College, August 1979), pp 21-28.

2. Field Manual 1-100, Army Aviation Utilization, Washington, DC: HQ Department of the Army, 1971, p 7-2. This superseded manual contains aviation doctrine of the Vietnam era. Chapter 7 details "...employment of helicopter direct aerial fires in accomplishing the ground commander's mission." (p. 7-1) The doctrine contains few references to independent attack helicopter maneuver against enemy forces. The emphasis is on employment of aviation fires to support the ground commander's need. Employment principles, though, are similar to current attack helicopter employment principles: surprise, fire and maneuver, mobility, flexibility, and coordination.

3. The evolution of AirLand Battle doctrine is detailed in John L.Romjue, From Active Defense to AirLand Battle: The Development of Army Doctrine, 1973-1982, TRADOC Historical Monograph Series, U.S. Army Training and Doctrine Command, Fort Monroe, Virginia, June 1984.

4. The seven guidelines for force structure, as applied to Army aviation, were: organize the unit for how it fights, provide unity of command for divisional aviation but separate "fighters" and "supporters" within the organization, ensure robustness (sufficient personnel and equipment for continuous operations), do not reduce combat power available to the division under the H-series aviation organization, increase experience levels of key leaders, simplify the commander's tasks by improving personnel structure and reducing the span of control, and keep the maximum number of weapons in battle at all times. This list, and other background information about the evolution of attack helicopter doctrine to fit AirLand Battle requirements came from an unpublished briefing given by Task Force 86, Directorate of Combat Developments, United States Army Aviation Center, Fort Rucker, Alabama, subject: Army 86 Aviation Briefing, dated 1 March 1983.

5. George S. Webb, "The Flashing Sword of Vengeance: The Force-oriented Counterattack from a Historical Perspective with Implications for the AirLand Battle and Combat Aviation," MMAS Thesis, School of Advanced Military Studies, U.S. Army Command and General Staff College, Fort Leavenworth, Kansas, 66027, 2 December 1985, p. 35.

6. Field Circular 1-112, Attack Helicopter Battalion, U.S. Army Aviation Center, Fort Rucker, Alabama, 29 March 1985, pp. 2-1, 2-2, and 3-15.

7. Richard E. Simpkin, Antitank: An Airmechanized Response to Armored Threats in the 90s, Elmsford, N.Y.: Pergamon Press, Inc., 1982.

8. ibid pp. 194-195.

9. ibid pp. 228-229.

10. LTG Robert W. RisCassi's foreword to Dr. Christopher R. Gabel's account of the tank destroyer of WWII: Seek, Strike, And Destroy: U.S. Army Tank Destroyer Doctrine in World War II, Leavenworth Paper No. 12, Combat Studies Institute, U.S. Army Command and General Staff College, Fort Leavenworth, Kansas, September 1985. Dr. Gabel's account of tank destroyers proved extremely relevent to this paper; much of the section about tank destroyer doctrine is taken from its pages.

11. Gabel, p.2.

12. FC 1-112, p.1-2.

13. Interview with MG Parker, Chief, Aviation Branch, Army Times, Springfield, Va., 18 August 1986.

14. Field Manual 71-2J, The Tank and Mechanized Infantry Battalion Task Force, (Coordinating Draft), Washington, DC: HQ Department of the Army, 1984, pp. 4-75 & 4-76.

15. The TACSOP of the Third Aviation Battalion, is a good example of an SOP growing to fill a doctrinal void. Roughly the size of FM 100-5, it contains information which would be more appropriate in FC 1-112.

16. Robert L. Johnson Jr., AH-64 and OTII, United States Army Aviation Digest, January 1985, pp. 2-12.

17. The observations of the SAMS students were not isolated incidents. Discussion with experienced observer/controllers who monitor the performance of the participating units confirmed the problem, as did the officer who monitors aviation performance at the NTC for the U.S. Army's Center for Army Lessons Learned. However, my review of several unit after action review "take home" packets, which are written by the controllers at the National Training Center, found no comments dealing specifically with the problem of attack helicopter and ground unit cooperation.

18. It is difficult to quantify the degree to which aviation employment doctrine is either misunderstood or deliberately ignored by Army officers. Through numerous conversations with mid-level combat arms officers (some of whom were aviation officers) during my attendance at Command and General Staff Officers Course in 1985-86, and discussions with fellow students within the Advanced Military Studies Program, it is clear that the potential for deviation from doctrine is significant. The majority of officers who did not adhere to aviation employment doctrine seemed ignorant of what the doctrine was, while others failed to see the reason behind it and therefore were not inclined to accept it.

19. Two articles which describe the technological improvements found on the AH-64 are MG Charles F Drenz, "AH-64 Apache," U.S. Army Aviation Digest, December 1985, pp. 2-8, and Norman B. Hirsh, "AH-64 A Total System for Battle," U.S. Army Aviation Digest, July 1986, pp. 2-9.

20. Carl von Clausewitz, On War, Princeton, N.J.: Princeton University Press, 1976, p.357.

21. Draft White Paper, Center for Army Tactics, U.S. Army Command and General Staff College: Fort Leavenworth, Kansas, subject: Employment of Army Aviation, dated 27 Oct 1986, p.9.

22. Simpkin, p. 190.

23. See article by Yarlett in the U.S. Army Aviation Digest for an example of computer aided training with sufficient realism to aid in doctrine validation. CPT Robert L. Johnson's article describing the AH-64's operational evaluation testing impact upon doctrine provides an excellent example of the tremendous improvement modern testing and evaluation has made over the Louisiana Maneuvers of the World War II era.

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