GROUND RECONNAISSANCE IN THE HEAVY CORPS: DO TACTICAL ASSETS MATCH MISSION REQUIREMENTS?

A Monograph

by

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First Term AY 88-89

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE

REPORT DOCUMENTATION PAGE

Form Approved OMB No. 0704-0188

1a. REPORT SECURITY CLASSIFICATION: UNCLASSIFIED	1b. RESTRICTIVE MARKINGS
2a. SECURITY CLASSIFICATION AUTHORITY	3 DISTRIBUTION / AVAILABILITY OF REPORT: Approved for public release; distribution unlimited.
2b. DECLASSIFICATION / DOWNGRADING SCHEDULE	
4. PERFORMING ORGANIZATION REPORT NUMBER(S)	5. MONITORING ORGANIZATION REPORT NUMBER(S)
6a. NAME OF PERFORMING ORGANIZATION: School of Advanced Military Studies, USACGSC / 6b. OFFICE SYMBOL (If applicable): ATZL-SWV	7a. NAME OF MONITORING ORGANIZATION
6c. ADDRESS (City, State, and ZIP Code): Fort Leavenworth, Kansas 66027-6900	7b. ADDRESS (City, State, and ZIP Code)
8a. NAME OF FUNDING / SPONSORING ORGANIZATION / 8b. OFFICE SYMBOL (If applicable)	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER
8c. ADDRESS (City, State, and ZIP Code)	10. SOURCE OF FUNDING NUMBERS: PROGRAM ELEMENT NO. / PROJECT NO. / TASK NO. / WORK UNIT ACCESSION NO.

11. TITLE (Include Security Classification): GROUND RECONNAISSANCE IN THE HEAVY CORPS: DO TACTICAL ASSETS MATCH MISSION REQUIREMENTS? (U)

12. PERSONAL AUTHOR(S): Major James F. Wolf, USA

13a. TYPE OF REPORT	13b. TIME COVERED	14. DATE OF REPORT (Year, Month, Day)	15. PAGE COUNT
Monograph	FROM _____ TO _____	88/11/30	44

16. SUPPLEMENTARY NOTATION

17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)
FIELD	GROUP	SUB-GROUP	RECONNAISSANCE; ARMORED CAVALRY REGIMENT; LONG RANGE SURVEILLANCE; ARMORED CAVALRY SQUADRON; SCOUT PLATOON; HEAVY CORPS

19. ABSTRACT (Continue on reverse if necessary and identify by block number)

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20. DISTRIBUTION / AVAILABILITY OF ABSTRACT	21. ABSTRACT SECURITY CLASSIFICATION
☒ UNCLASSIFIED/UNLIMITED ☐ SAME AS RPT ☐ DTIC USERS	UNCLASSIFIED
22a. NAME OF RESPONSIBLE INDIVIDUAL: Major James F. Wolf	22b. TELEPHONE (Include Area Code): (913) 684-2138 / 22c. OFFICE SYMBOL: ATZL-SWV

DD Form 1473, JUN 86 — Previous editions are obsolete. — SECURITY CLASSIFICATION OF THIS PAGE

UNCLASSIFIED

Continuation of Block 19.
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30 November 1988

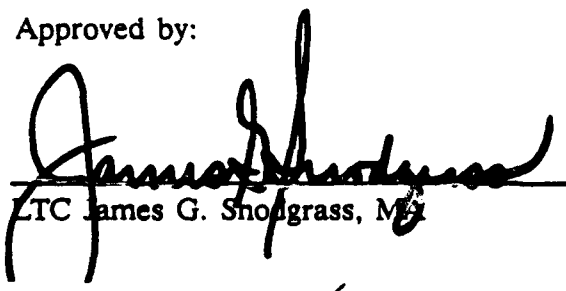
SCHOOL OF ADVANCED MILITARY STUDIES

MONOGRAPH APPROVAL

Name of Student: James F. Wolf, MAJ, Infantry

Title of Monograph: Ground Reconnaissance in the Heavy Corps
Do Tactical Assets Match Mission
Requirements?

Approved by:



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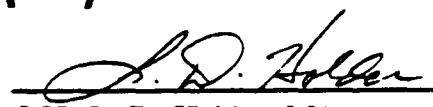

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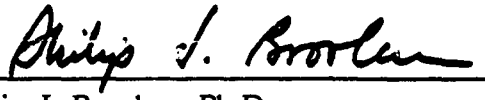

Philip J. Brookes, Ph.D. — Director, Graduate Degree Program

Accepted this 15th day of May 1989

ABSTRACT

GROUND RECONNAISSANCE IN THE HEAVY CORPS: DO TACTICAL ASSETS MATCH MISSION REQUIREMENTS? by MAJ James F. Wolf, USA. 44 pages.

This monograph discusses whether the U.S. Army has developed appropriate organizations for the conduct of tactical reconnaissance at the Corps, Division, Brigade, and Battalion/Task Force levels of command for the heavy forces in accordance with current doctrine. This monograph compares at each of the four levels of command under consideration, the parent unit mission profile, doctrinal mission requirements, and current reconnaissance organizations, to determine whether stated requirements are met.

The monograph first provides the historical background to the development of reconnaissance organizations in the U.S. Army since World War II. Then current reconnaissance missions and organizations at each of the four levels of command under consideration are examined. Conclusions as to the ability of these organizations to fulfill doctrinal requirements are then derived.

Finally, recommended reconnaissance missions and organizations are presented. The monograph finds the largest problems at the division and brigade levels and recommends that the best solution for both lies in the restructuring of the divisional cavalry squadron.

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INTRODUCTION

The past decade was one of significant change for the U.S. Army in the areas of doctrine, organization, modernization, and training. Doctrinally, the recognition of the operational level of war and the implementation of AirLand Battle doctrine have been important. Organizationally, the restructuring of units under the provisions of the Army of Excellence made a major impact. Modernization in the form of new equipment such as the M1 tank, M2/3 fighting vehicle, and AH-64 attack helicopter provided numerous challenges. Finally, our training has become more realistic with the use of fire simulation devices such as MILES and the establishment of combat training centers such as the National Training Center at Fort Irwin.

One effect of these changes is an ongoing dialogue within the Army concerning its ability to successfully conduct combat operations. A key area of discussion within the dialogue is the role, missions, and structure of ground reconnaissance units.

Ground reconnaissance and its importance in the conduct of successful combat operations are subjects of critical interest to the Army today. This interest in the role of ground reconnaissance dates to the early 1940's when the Army began to mechanize on a large scale, continued during World War II with questions about the proper role of the divisional reconnaissance battalion and the mechanized cavalry group,

and was revisited during the early 1980's with the Division 86 and Army of Excellence studies. Today, the results of force on force exercises and discussions of the doctrinal role of ground reconnaissance have sparked renewed interest.

The problem which will be addressed in this paper is: Has the U.S. Army developed appropriate organizations for the conduct of tactical reconnaissance at the Corps, Division, Brigade, and Battalion/Task Force levels of command for the heavy forces in accordance with current doctrine? Currently, organic ground reconnaissance units exist at three of the four levels, with brigades lacking organic capability. The question as to whether each level requires an organic reconnaissance unit as well as the correct balance between reconnaissance, security, and other combat missions is at issue. These questions will be answered by comparing current doctrinal requirements with current capabilities at each level.

Reconnaissance has been important in military theory and doctrine since the earliest times. The Chinese military thinker, Sun Tzu stated: "Therefore, determine the enemy's plans and you will know which strategy will be successful and which will not. Agitate him and ascertain the pattern of his movement. Determine his dispositions and so ascertain the field of battle. Probe him and learn where his strength is abundant and where deficient." 1

More modern thinkers such as V. K. Triandafillov, J. F. C. Fuller, and R. E. Simpkin have also addressed the importance of reconnaissance. Triandafillov said: "Therefore, the commander

must concern himself with timely organization of reconnaissance to avoid preconceived decisions...only ground-based reconnaissance will be capable of providing more precise data on what enemy forces have occupied what local points...". 2 In Armored Warfare, Fuller tells us: "Information is the foundation of battle...during battle, it is of the utmost importance that the maximum of information regarding the enemy should be gathered...". 3 Finally, Simpkin reminds us: "Reconnaissance is basically about surveillance and information gathering...reconnaissance is about a pair of eyes and ears, nowadays backed up by an array of electronic and optronic systems, and a radio set." 4

U.S. Army doctrine, as provided in Field Manual 101-5-1, Operational Terms and Symbols, defines reconnaissance as:

> A mission undertaken to obtain information by visual observation, or other detection methods, about the activities and resources of an enemy or potential enemy, or about the meteorologic, hydrographic, or geographic characteristics of a particular area. 5

The methodology used in this paper is to compare at each of the four levels of command under consideration the parent mission profile, doctrinal mission requirements, and current reconnaissance organizations to determine whether or not stated requirements are met. Based on this assessment I will note shortfalls and make recommendations as to changes required in the reconnaissance missions and organizations within the heavy corps.

HISTORICAL BACKGROUND

For the U.S. Army, the history of ground reconnaissance in the heavy forces begins with the mechanization of the Army at the beginning of World War II. Concurrent with the German "blitzkrieg" in Poland and France demonstrating the importance of armor in modern war, U.S. Army maneuvers in 1939-40 demonstrated that the development of mechanization under the Cavalry and Infantry branches was not receiving adequate attention. This led to the creation of the Armored Force on 10 July 1940. 6

Four armored corps were activated under the Armored Force. Each was to consist of two armored divisions and one motorized infantry division. 7 The armored divisions were to have a reconnaissance battalion, while the infantry divisions had a reconnaissance troop. 8 The mission of these units according to contemporary doctrine was reconnaissance and they were, as a rule, to attempt to avoid combat. 9

In March 1942, the Office of the Chief of Cavalry was eliminated and its functions were transferred to Army Ground Forces. The pace of mechanization increased with many cavalry regiments used to form armored regiments. Nondivisional regiments and squadrons were mechanized in the same manner as reconnaissance units in armored and infantry divisions. In 1943 all nondivisional mechanized cavalry regiments were reorganized into separate groups and squadrons. They were "organized, equipped, and trained to perform reconnaissance missions employing infiltration tactics, fire,

and maneuver." They were to engage in combat only when necessary for mission accomplishment. 10

The primary mission of the reconnaissance and cavalry organizations was reconnaissance. However, studies conducted after the war, such as The General Board, United States Forces, European Theater; Tactics, Employment, Technique, Organization, and Equipment of Mechanized Cavalry Units, found that the pure reconnaissance missions were rare. Defensive missions, meanwhile, were common for mechanized cavalry groups, as shown in the table below. 11 Furthermore, the board found that it was normal for the mechanized cavalry group of a corps to be reinforced by a battalion of artillery, a battalion of tank destroyers, and an engineer company for the conduct of defensive, offensive, and security missions. 12

MISSION TYPE	FREQUENCY
Defensive (defense, delay, holding actions)	33%
Special operations (reserve, rear area security)	29%
Security (blocking, screening, flank, gap)	25%
Offensive (attack, pursuit, exploitation)	10%
Reconnaissance	3%

The table itself may be misleading in that the study further noted: "...reconnaissance was frequently performed by mechanized cavalry units but usually in conjunction with the execution of other missions rather than as a mission of its own...often the situation was such that information had to be fought for...". 13

The board found that the reconnaissance battalions at division level performed "significantly" more pure reconnaissance than the cavalry groups, but that other missions still dominated. Furthermore, the board noted that elements of these battalions were frequently detached to combat commands and task forces within the division. The type of missions and frequency of occurrence are listed below. 14

MISSION TYPE	FREQUENCY
Special operations (reserve, rear area security)	48%
Security (blocking, screening, flank, gap)	24%
Reconnaissance	13%
Defensive (defense, delay, holding actions)	11%
Offensive (attack, pursuit, exploitation)	4%

Again, as previously noted, the results shown in the table above may be misleading. The board noted that not only were cavalry units required to fight for information, but that "...reconnaissance was frequently performed...usually in conjunction with other missions...". 15

Finally, the board noted the missions performed by the reconnaissance troops of the infantry divisions, as shown below. 16

MISSION TYPE	FREQUENCY
Security (blocking, screening, flank, gap)	50%
Special operations (reserve, rear area security)	39%
Reconnaissance	6%
Defensive (defense, delay, holding action)	4%
Offensive (attack, pursuit, exploitation)	1%

The board concluded: "a. That the mission which was assigned to mechanized cavalry--reconnaissance, with a minimum of fighting--was unsound.", and "b. That mechanized cavalry should perform the traditional cavalry role of a highly mobile, heavily armed and lightly equipped combat force." 17

Organizationally, the board felt that the cavalry group should be replaced by a regiment consisting of three squadrons. Each squadron would be composed of three cavalry troops, plus a light tank troop, an assault gun troop, and a rifle or "dragoon" troop. Additionally, a mounted rifle squad was recommended for inclusion into the cavalry platoon. The reconnaissance troop of the infantry divisions and the reconnaissance battalion of the armored divisions would be replaced by a mechanized cavalry squadron organized identically to the squadrons of the proposed cavalry regiment. 18

The board recommended that the equipment of cavalry units be upgraded with an improved armored car, armored self-propelled artillery, light armor for the 1/4 ton truck (jeep), and an effective anti-tank gun for the light tank. It concluded by stating that changes in equipment, "Should not decrease the speed or range of mechanized cavalry by adding vehicles of excessive weight or insufficient sustained mobility." 19 Finally the board stated that "... the mission of mechanized cavalry should be combat." 20

At the battalion and regimental levels, World War II Infantry and Armor units were provided with reconnaissance platoons in the Headquarters Companies of the respective organizations. Postwar studies, such as The General Board, United States Forces, European Theater; Organization, Equipment and Tactical Employment of the Armored Division, recommended that these platoons be retained in any postwar organization. These platoons were to be equipped with wheeled vehicles and employed in the reconnaissance role. 21

Many of the recommendations resulting from the World War II experiences of reconnaissance and cavalry units were incorporated in the post-war TO&E's beginning in 1948. These began a trend toward "heavy" reconnaissance units at the corps and division levels in the Army. Although the Army would undertake two major restructurings of divisions after the Korean War, the Pentomic plan of 1957-59 and the Reorganization Objective Army Division (ROAD) plan of 1962-64, only the latter would have a major impact on reconnaissance units. Under the

ROAD concept, all types of divisions received an air cavalry troop in the armored cavalry squadron. 22

In 1980, Army divisions were again restructured, this time under the Division 86 plan. This plan and the later Army of Excellence changes had minimal effect on the combat capability of the cavalry regiment. However, the effect on the divisional squadron was significant. A comparison of the former H series TO&E and the Army of Excellence is provided below: 23

COMPONENT	H Series	AOE
Personnel	862	613
Tanks	36	0
Scout Helicopters	10	12
Scout Vehicles	45	36
Attack Helicopters	9	8
Mortars	9	6

Army of Excellence also added an additional reconnaissance capability at the corps and division levels in the form of long-range surveillance units. These consist of a long range surveillance company within the military intelligence brigade at corps, and a long range surveillance detachment in the divisional cavalry squadron.

It becomes apparent that the historical trend regarding reconnaissance units in the U.S. Army has been toward a combat oriented, multi-role organization at the division level and above, with the exception of the AOE division cavalry

squadron. This organization has continued to receive the mission requirements for multi-role combat, but must be augmented to perform these missions. Below the division level the trend has been primarily toward emphasis of the reconnaissance mission, with sufficient armor protection and firepower to operate in combat conditions.

DEFINITIONS, MISSIONS, AND ORGANIZATIONS

In order to provide a common frame of reference when reviewing the current reconnaissance organizations within the heavy corps, it is necessary to define terms used in analyzing doctrinal mission requirements and unit mission profiles. The primary sources for terms and definitions are FM 101-5-5, OPERATIONAL TERMS AND SYMBOLS, and FM 100-5, OPERATIONS. Mission profiles and requirements will be extracted from the appropriate field manuals for each organization and level of command reviewed.

Reconnaissance, surveillance, security operations, and intelligence are concepts which are often confused, or at least not clearly defined in usage. Clear and consistent definitions are necessary if we are to gain any benefit from an analysis of reconnaissance units and their missions. Definitions for these terms and concepts are provided in Appendix A.

From the definitions provided, it becomes apparent that a "reconnaissance" unit may be anywhere in the spectrum from reconnaissance to covering force. In order to determine what is expected of reconnaissance units at each of the four tactical command levels within the corps, it is necessary to review the missions at each level.

Missions doctrinally given to ground reconnaissance organizations at corps, division, brigade, and battalion/task force levels provide the basis to begin an analysis of the ability of these organizations to meet mission requirements. At the corps level, the primary ground reconnaissance

organizations are the Long Range Surveillance Company and the Armored Cavalry Regiment.

The Long Range Surveillance Company (LRSC) provides the corps with a HUMINT collection capability. The primary missions of the LRSC according to FC 7-93, LONG RANGE SURVEILLANCE UNIT OPERATIONS, are provided below.

> (1) Conduct long range intelligence collection through reconnaissance and surveillance.
> (2) Determine and report the location, strength, equipment, disposition, organization, and movement of enemy forces, and determine the location of high-value targets, to include nuclear, biological, and chemical (NBC) weapon delivery systems; nuclear weapon storage sites; reserves; command and control elements; and key installations, to include both fixed and mobile facilities.
> (3) Conduct damage assessment and NBC monitoring.
> (4) Emplace and employ unattended sensors and electronic intelligence, target acquisition, and designation equipment.
> (5) Employ photographic and night image enhancement devices.
> (6) Obtain information on possible drop and landing zones for airborne and air assault operations.
> (7) Provide information on terrain and weather conditions. 24

The Long Range Surveillance Company consists of five platoons: headquarters platoon with an operations and maintenance section; a communications platoon with a headquarters, communications, and three base station sections; and finally, three long range surveillance platoons with six reconnaissance teams per platoon.

Reconnaissance team members are trained for insertion by parachute or other means into enemy-held areas. They may operate for up to eight days in this environment according to planning factors provided in the field circular. Teams are made up of the team leader, assistant team leader, three scout observers, and a single-channel radio operator. They are lightly armed with limited self-defense ability. 25

The Armored Cavalry Regiment is the Corps Commander's primary organization for ground reconnaissance. FM 17-95, CAVALRY OPERATIONS, states that armored cavalry is designed for reconnaissance, surveillance, and security missions, and may conduct these missions singly or simultaneously. 26

FM 100-15, CORPS OPERATIONS, (27) and FM 17-95 (28) provide the following mission capabilities for armored cavalry regiments:

FM 100-15	FM 17-95
Reconnaissance	Reconnaissance
Security	Security
Economy of Force Operations	Economy of Force
Offensive Operations	Attack
Defensive Operations (augmented)	Exploitation/Pursuit (as part of larger force)
Delaying Action	MOUT Operations
Flank Security	Raids
Covering Force	Defend in Sector
Counterattack	Delay in Sector
	Defend from Battle Position
	Rear Area Protection

The armored cavalry regiment consists of a regimental headquarters troop, three armored cavalry squadrons, a combat aviation squadron, a support squadron, an engineer company, an NBC company, a CEWI company, and an ADA battery.

Each armored cavalry squadron consists of a headquarters troop, three cavalry troops, a tank company, and an artillery battery. The cavalry troops consist of a headquarters section, two mortar squads, two scout platoons, two tank platoons, and a maintenance section.

The scout platoons are organized with a two-vehicle (M3 Bradley CFV) headquarters and two scout sections each consisting of two vehicles (M3), for a total of six vehicles. The platoon has a total of twelve scouts who may dismount. 29

Major weapons and equipment found in the regiment are provided below. 30

	CFV M3	Tank M1	CEV	DRA-GON	MOR-TAR	OH 58	AH 1S	UH 60	PIV ADS	155 HOW
ACR	116	123	3	30	18	27	26	18	12	24
HHT	2									
SQDx3	38	41			6					
HHT	2									
TRPx3	12	9			2					
Tank Co		14								
FA Btry				8						8
AVN SQD						27	26	18		
HHT						1		3		
Air TRPx3						6	4			
Atk Cox2						4	7			
Aslt Co								15		
ADA Btry					(22 STINGER)			+	12	
ENGR Co			3	6						

At division level, the primary ground reconnaissance unit available to the Division Commander is the Divisional Cavalry Squadron. FM 71-100, DIVISION OPERATIONS, provides the following mission statement for the Divisional Cavalry Squadron:

> MISSION: The division cavalry primary missions are reconnaissance and security. However, cavalry can perform other combat missions as required. 31

A comparison of divisional cavalry squadron missions as found in FM 71-100 (32) and FM 17-95 (33) are listed below.

FM 71-100	FM 17-95
Reconnaissance	Reconnaissance
route	front
zone	flanks
area	rear
Security Operations	Screening Operations
screen	Guard (when augmented)
guard (requires augmentation with tanks)	Facilitate Division C2
cover (requires augmentation with combat, CS, and CSS)	LOC Surveillance
	Assist/Control Movement
	Internal Surveillance
	Position/Monitor Sensor
	NBC Reconnaissance

At division level, the cavalry squadron is organized with a headquarters troop, two cavalry troops, two air cavalry troops, a long range surveillance detachment and an NBC reconnaissance detachment. Each cavalry troop consists of a headquarters section, three scout platoons, and a mortar section. The scout platoon organization mirrors that of the scout platoon in the regimental structure. 34

The division Long Range Surveillance Detachment (LRSD) consists of a headquarters section, a communications section with two base station teams and six reconnaissance teams. The organization of the teams and their capabilities match those of the LRSC found at corps with the exception of a planning factor of five as opposed to an eight day operational time frame, according to the field circular. 35

The major weapons and equipment of the divisional cavalry squadron are listed in the following table. 36

	TOW	DRA-GON	CFV M3	MOR TAR	OH 58	UH 60	AH 1S
SQUADRON	40	20	40	6	12	1	8
CAV TRP×2	19	6	19	3			
MOR SQD×3				1			
CAV PLT×3	6	2	6				
AIR TRP×2		2			6		4

Although separate brigades have an organic armored cavalry troop, brigades within divisions lack an organic ground reconnaissance unit. FM 71-3, ARMORED AND MECHANIZED INFANTRY BRIGADES, states:

> The brigade intelligence section answers PIR's using a detailed reconnaissance and surveillance plan developed and coordinated by the brigade and TF S2s and S3s. The brigade S2 requests additional information and collection assets from division when the brigade commander's PIR cannot be met by organic brigade assets. 37

Although the requirement for reconnaissance, security, and surveillance missions are stated or implied many times in the brigade field manual, examples and illustrations reference the subordinate units or division as the source of these reconnaissance assets. Among the requirements for reconnaissance, security, and surveillance are those listed below. 38

RECONNAISSANCE	SECURITY	SURVEILLANCE
Envelopment	Offensive actions	Offensive actions
Movement to contact	move to contact	Defensive actions
Exploitation	exploitation	Rear area operations
Limited Visibility	Defensive actions	Intell collection
Covering force	Rear area operation	
Defense		
Relief in place		
Passage of lines		
Delay/Withdrawal		
Rear area operation		

The battalion scout platoon provides the battalion/task force commander with his own organic reconnaissance capability. FM 71-2, THE TANK AND MECHANIZED INFANTRY BATTALION TASK FORCE, provides the following description of the platoon's mission.

> The battalion scout platoon performs reconnaissance, provides limited security, and assists in controlling movement of the battalion task force. The platoon is not organized or equipped to conduct independent offensive, defensive, or retrograde operations. It operates as part of the battalion and should be assigned missions that capitalize on its reconnaissance capabilities. The scout platoon is one of the commander's primary sources of combat intelligence before the battle and is his eyes and ears during the battle. 39

The battalion scout platoon is organized and equipped like the regimental and divisional cavalry scout platoons. The platoon leader organizes the platoon into two or three sections depending on METT-T.

ANALYSIS OF RECONNAISSANCE MISSIONS AND ORGANIZATIONS

A comparison of the doctrinal mission requirements and organizations currently available to carry out these missions at each level of tactical command within the heavy corps provides the basis to identify any mission or organizational shortfalls.

Ground reconnaissance at each level of command within the corps is based on the scout. Operating in identically organized scout platoons in the armored cavalry regiment, the divisional cavalry squadron, and the battalion scout platoon, these scout soldiers perform the same functions at each level.

Scouts move on the battlefield in order to gain positions from which they can observe and report. This is often a continuous process which may be based on the maneuver or anticipated maneuver of the parent force. The scout acts as the eyes and ears of the commander. He employs stealth or infiltration techniques to gain freedom of movement and avoids decisive engagement in the conduct of his reconnaissance mission.

The scouts provide near-term, time-relevant reconnaissance information for the commander at each level. While the role of the scout remains constant, the role of his parent organization varies from nearly pure reconnaissance in the battalion scout platoon to multi-role combat missions in the armored cavalry regiment. In the analysis of reconnaissance missions and organizations which follows, the role of the reconnaissance soldier, the scout, will provide a common theme.

The corps commander is provided with a variety of reconnaissance assets in addition to his ground reconnaissance organizations. These may include sensors, aerial reconnaissance, theater reconnaissance assets, and national technical means. In this environment the primary role of the reconnaissance soldier, the scout, is to provide on-the-ground verification.

In order to provide this verification, the armored cavalry regiment may be employed well in advance of or to the flank of the main body of the corps. Thus the regiment contains the indirect fire (artillery) and direct fire (tank and attack helicopter) assets to operate in this environment. The role or function of the scout remains the same; however, the mission of the regiment may be expanded beyond pure reconnaissance.

At the corps level, analysis of mission requirements versus organizational capabilities shows us extremely capable, flexible organizations with minor shortfalls.

The armored cavalry regiment is a tremendously capable combat and reconnaissance unit which nonetheless displays shortcomings in its ability to conduct ground reconnaissance. These shortcomings include: engineer reconnaissance, chemical/nuclear reconnaissance, limited dismounted reconnaissance capability, and lack of relative mobility when compared to the corps' other maneuver units.

The engineer company of the armored cavalry regiment is responsible for:

> ... survivability, mobility, and countermobility support. They construct and supervise the construction of obstacles, prepare demolitions, improve roads, provide bridging (including armored vehicle launched bridges [AVLB]), and dig fighting positions for combat vehicles. 40

Engineer reconnaissance is not given as a mission for the regiment nor for its engineer company. FM 100-15, CORPS OPERATIONS, lists engineer reconnaissance as the responsibility of combat engineer battalions. 41 This concept limits the ability of the armored cavalry regiment's reconnaissance effort and fails to place the responsibility for conducting reconnaissance in the corps under one headquarters.

Chemical/nuclear reconnaissance is a second shortfall in the armored cavalry regiment organization. The regiment s chemical company is primarily a decontamination unit. Doctrine in this area is weak; NBC operations are addressed in an appendix to FM 17-95 which is "To Be Published". 42 The corps manual, FM 100-15, lists chemical reconnaissance as the responsibility of the Chemical Company (Reconnaissance), normally established as one per corps. 43 Again, the reconnaissance ability of the regiment is limited and the reconnaissance effort is piecemealed.

Limited dismounted reconnaissance capability is the third shortfall in the regimental organization. Each scout platoon has the capability to dismount up to twelve scouts. However, this leaves the platoon with only vehicle crews and no capability for local dismounted security. Furthermore, the scout platoon is not designed as a dismounted reconnaissance organization. When dismounted, the scouts are twelve soldiers.

not a twelve man dismounted reconnaissance unit. They lack the organization and equipment to optimize them for this mission. This is the same shortfall identified in post World War II studies.

Finally, lack of a relative mobility differential between the armored cavalry regiment and the other combat elements of the heavy corps may cause problems. Although the combat vehicles of the regiment, M1 tanks, M3 CFV's, and 155 howitzers provide outstanding combat capability to the regiment, they are the same vehicles with which the corps' major combat formations are equipped. The regiment, therefore, has no mobility advantage within the corps organization. Missions which require speed in execution can not be accomplished faster than by the main elements of the corps. Some missions, such as screening a moving corps or conducting reconnaissance while the corps is moving, must be questioned, or may be impossible to accomplish.

The Long Range Surveillance Company provides an excellent reconnaissance and surveillance capability to the corps commander. However, there are shortcomings external to this organization which may limit its effectiveness, including the emplacement of reconnaissance teams and the "moral factor" faced by the commander in planning their use.

Long range surveillance units may employ air, land, or water infiltration techniques to emplace teams. Additionally, "stay behind" techniques may be used in some circumstances. Nearly all of the infiltration techniques will require special

equipment and personnel for execution. Some, such as air insertion, may be a joint effort requiring considerable coordination and integration with other operations. As a consequence of the difficulty of infiltration and the relative immobility of the teams once inserted, the flexibility of the teams is greatly diminished. Plans for their employment may be more appropriate at an operational, as opposed to a tactical, level of reconnaissance and intelligence. 44

The "moral factor" faced by the commander in employing these teams may become the biggest challenge to their success and usefulness. For nearly any conceivable mission, the teams will need to pass through, and perhaps into, heavily defended enemy areas. Once their mission is accomplished, doctrine states the teams will exfiltrate on their own, be extracted, or link up with advancing friendly forces. For commanders as well as teams, the question of survivability may become the issue which determines ability to successfully execute the mission.

At the division level the role of the scout is identical to that of the regimental scouts. The role of the division cavalry squadron is also similar to that of the regiment. At this level, however, the squadron normally would verify information provided by corps assets. An exception to this may occur when the divisional squadron is employed on a flank which is a corps boundary. The divisional squadron, unlike its regimental counterpart, will not normally be deployed outside the coverage of the division's indirect fires, but may receive other combat missions concurrently with its reconnaissance mission.

The division cavalry squadron has significant deficiencies in its ability to conduct its doctrinal missions. Among these deficiencies are: insufficient number of cavalry troops, requirement for augmentation to conduct some missions, lack of sufficient dismounted reconnaissance capability, and lack of relative mobility.

Unlike the armored cavalry regiment, the division cavalry squadron is lacking in both combat and reconnaissance capability. In the area of reconnaissance, the squadron's limited number of cavalry troops, two, is a deterrent to successful reconnaissance. Since the heavy division is normally organized with at least three maneuver brigades and an aviation brigade, the division commander must either spread his reconnaissance element across brigades, depend on brigades for some reconnaissance, or accept risk with no reconnaissance in some areas.

The requirement for augmentation to conduct certain security operations, especially the guard and cover missions, is a significant shortfall. The issue basically revolves around tanks. The squadron has none and must be augmented for these missions from tank battalions within the division. This means that the combat power of another formation in the division must be decreased in order to increase that of the cavalry squadron. Additionally, this means the squadron will conduct an extremely difficult mission with elements that have not habitually trained together, thus degrading the advantages inherent to a combined arms organization.

Like the armored cavalry regiment, the division cavalry squadron lacks sufficient dismounted reconnaissance capability. Dismounted capability is dependent on the scout platoons, each of which can dismount twelve scouts. As at the regiment, however, this leaves only vehicle crews mounted in the platoon. Furthermore, the dismounted scouts are not organized or equipped for dismounted operations remote from their vehicles.

The Long Range Surveillance Detachment, LRSD, organic to the division cavalry squadron, suffers from the same problems as the LRSC at corps. The problems are magnified at the division level, due to even fewer resources for the emplacement and extraction of the reconnaissance teams. The lack of mobility of emplaced teams further reduces their usefulness to the division commander in a fluid situation.

Finally, the division cavalry squadron has the same deficiencies regarding a lack of relative mobility as the regimental organization. This deficiency is even more pronounced at the divisional level, due to the limited number of cavalry troops within the division organization. Lack of a relative mobility differential brings the squadron's ability to conduct screening missions, as well as reconnaissance missions when the division is moving, into question.

Perhaps the most glaring deficiency for ground reconnaissance capability within the heavy corps is the lack of any organic ground reconnaissance organization at the brigade level. Such an organization would seem to be required both by the missions a brigade receives, and the size of a sector or zone in which a brigade may operate.

The role of reconnaissance soldiers at the brigade level should be no different than those at corps and division. At this level, however, the requirements for a parent reconnaissance organization with a multi-combat mission capability no longer apply. The requirement here is primarily for reconnaissance and command and control. A brigade commander needs verification of information provided by the division, detailed terrain information for planning, and near real-time information on enemy movements. Reconnaissance organizations at this level can provide this without a capability for multi-role combat.

In both the defense and offense, a brigade has the requirement for an organic ground reconnaissance unit. Possible missions include screening a flank, reconnaissance and surveillance in the depth of the brigade sector, rear area security, and development of intelligence and battlefield information. Currently, the brigade must depend on taskings to subordinate units, or assistance from division, to carry out these missions.

The size of the brigade's area also supports the requirement for an organic reconnaissance organization. The area of interest for the brigade commander may extend past those of its subordinate battalions, creating a gap in reconnaissance coverage. The PIR's of the brigade may be such that the division will be unable or unwilling to assist in providing coverage. For both of these reasons, an organic reconnaissance capability would seem to be appropriate at the brigade level.

The scouts at battalion level fulfill the reconnaissance role as discussed for the other levels within the corps. Here the emphasis is nearly pure reconnaissance at almost real-time. The battalion's scouts are seldom employed out of range of the battalion's organic indirect fire assets (mortars). Due to the small size of this organization they fill very specific reconnaissance requirements such as route reconnaissance and observation posts.

The battalion scout platoon provides the battalion commander with an excellent ground reconnaissance capability, but still displays shortcomings when compared to mission requirements. These shortcomings include the relatively small size of the platoon, lack of sufficient dismounted reconnaissance capability, and deficiencies in the relative mobility of the platoon when compared to the task force.

The battalion scout platoon's small size in relation to its mission requirements presents real problems. If the platoon is to operate on a long-term continuous basis, the platoon leader will have to rest crews and maintain vehicles.

This will leave fewer than the assigned vehicles available to actually carry out mission requirements. If vehicles are positioned to provide mutual support or over-watch, the actual area which can be covered will be extremely small. This brings into question the platoon's ability to effectively carry out area and zone reconnaissance missions, as well as screening missions.

Like its "big brothers" at corps and division, the scout platoon lacks sufficient dismounted reconnaissance capability. Just as with the scout platoons in the regiment and division cavalry squadron, the battalion scout platoon can dismount up to twelve scouts. The dismount capabilities here suffer from the same shortfalls previously discussed. In the infantry heavy battalion/task force this is not a severe problem, since rifle companies may be tasked to augment or conduct the dismounted reconnaissance mission. However, in the tank pure or tank heavy battalion/task force this is a significant problem.

Finally, as with the other reconnaissance organizations, relative mobility is a problem for the scout platoon. The reason is also the same -- same type vehicles as the main body.

CONCLUSIONS

Current ground reconnaissance organization in the heavy corps fails to meet doctrinal mission requirements. At two levels, division and brigade, the shortfall is severe. At the ends of the spectrum, corps and battalion are in better shape, but could be modified for improved ability to achieve mission accomplishment.

At the corps level, the most significant shortfalls are in the capability of the armored cavalry regiment to conduct engineer, chemical, and dismounted reconnaissance. Additionally, the lack of a positive relative mobility differential, compared to the corps as a whole, is a problem. Only limited changes are required within the armored cavalry regiment to increase its mission capability.

Capability of the long range surveillance company to perform its reconnaissance mission, once it is successfully infiltrated, is adequate. The difficulty with this organization is external -- the ability to successfully emplace the reconnaissance teams.

The division cavalry squadron's ability to carry out its assigned missions as currently organized is questionable. This unit lacks the number of subordinate cavalry troops, as well as the necessary combined arms organization, to be successful. It also suffers from the ills of too small a dismounted reconnaissance capability and relative mobility problems.

The LRSD organic to the division cavalry squadron does not add to the squadron's ability to per rm its mission. The lack of mobility and flexibility for emplaced teams, along with the squadron's limited means of insertion, may mean that successful use of this organization in the cavalry squadron is impossible.

The complete lack of a reconnaissance organization at brigade level, despite the doctrinal need for one, is the most significant ground reconnaissance shortcoming in the heavy corps. The dependence of the brigade on its subordinate units or division for ground reconnaissance leaves a large gap in our ability to carry out doctrinal requirements.

The battalion scout platoon requires only minor modification to make it a more efficient reconnaissance organization. These changes include additional numbers of vehicles, increased dismounted reconnaissance capability, and an improvement in relative mobility.

As shown in Section II, HISTORICAL BACKGROUND, the trend in the U.S. Army since the Second World War has been towards cavalry-type organizations at division and corps. These organizations have been multi-mission type units, for which ground reconnaissance has been only one of several missions. Below division level, the trend has been towards reconnaissance organizations with limited combat capability.

Requirements for dismounted reconnaissance capability has also been recognized since World War II. The recommendation for the inclusion of a "rifle" company or "dragoon" troop in the cavalry squadron by the post-war studies is an example.

Problems of relative mobility differentials have also been noted. Many of the controversies over wheeled versus tracked scout vehicles stem from this question.

Finally, questions over how much reconnaissance capability is needed, and at what level, seem to have been with us since the beginning of mechanization.

RECOMMENDED ORGANIZATIONAL AND MISSION CHANGES

A combination of revised missions and organizations will provide a satisfactory solution to the shortcomings between current missions and current ground reconnaissance organizations in the heavy corps.

The missions of the armored cavalry regiment should be modified to include a requirement for limited engineer and chemical/nuclear reconnaissance capability. The armored cavalry regiment requires very limited changes to increase its effectiveness. The addition of platoon-sized reconnaissance elements in the regiment's engineer and chemical companies should satisfy the change to mission requirements in those areas. Such units are necessary if the regiment is to fulfill the reconnaissance function on an integrated battlefield. Just as the regiment's role mandates its own organic indirect and direct fire capability, so too must it have its own engineer and chemical/nuclear reconnaissance capability. Platoon-sized elements are recommended based on the corps' current capability in these areas. Placing these platoons in the engineer and chemical companies at regiment would assist in their training and staff planning for their employment.

Dismounted reconnaissance capability can best be solved by using the solution first posed after World War II; the addition of a "dragoon" troop to each of the regiment's armored cavalry squadrons. Such a troop, if properly equipped, might also go a long way to increasing the regiment's capabilities in a defensive scenario. The current mechanized infantry company

organization would be a good starting point for designing the troop. A troop-sized unit would also provide an organization large enough to plan and conduct training as well as dismounted operations.

Lack of relative mobility is not a burning issue in the execution of all missions. In many defensive and security missions, the regiment will have to create a mobility differential through the use of its combined arms capabilities. However, in some security missions, mobility differential may become important. Equipping a portion of the squadron with a more mobile vehicle may be a solution. A technique may be to establish a "light" scout platoon in lieu of a standard scout platoon within each troop. Such a platoon would need to be equipped with a vehicle providing a significant increase in both improved road and cross-country capability over the M3 CFV. Such a vehicle would need to protect the crew against small arms fire, artillery fragmentation, and anti-vehicular mines. Preferably, it would also be amphibious and consideration should be given to airmobility. A vehicle light enough to be lifted in a combat configuration by UH-60 could provide the regiment with a significant mobility advantage for selected reconnaissance missions. Current Armor School proposals to equip each M3 with a motorcycle, while improving relative mobility, may not improve survivability. 45 The HMMWV (high-mobility, multipurpose wheeled vehicle) would also seem to be inadequate for this role due to lack of amphibious capability. A wheeled armored car type vehicle or an improved tracked vehicle

optimized for the reconnaissance mission may be the best solution.

The Long Range Surveillance Company is adequate in design to accomplish its doctrinal missions. Problems with this organization are external to it and deal with the ability of the corps to successfully infiltrate the reconnaissance teams. However, one must question the applicability of this unit for tactical reconnaissance or surveillance. Once employed it is relatively immobile. It is perhaps a better organization for operational intelligence.

Both the organization and missions of the division cavalry squadron require change. One change affecting both organization and mission involves the LRSD. This unit would best be removed from the division cavalry squadron due to both employment differences and lack of adequate infiltration means in the squadron. Since this unit suffers from the same problems in regard to tactical reconnaissance and surveillance as the LRSC at corps, it would perhaps best be completely eliminated from the division.

The primary change to the squadron needs to be an increase in the number of cavalry troops to at least three. Such a change would allocate sufficient reconnaissance forces to the division for the conduct of current missions. Such a change could be managed to allow the division sufficient forces, so that brigade reconnaissance units would not be necessary. This would also require the addition of a mission for the squadron, namely support of brigade reconnaissance requirements as directed.

The squadron's shortfall in ability to conduct guard and cover missions is best addressed in the short-term by an organizational change to make the division squadron structure mirror that of the regimental squadron. In other words, put tanks back into the division squadron. The dismounted reconnaissance shortfall in the divisional squadron, as well as the mobility differential problem, could also be resolved in a manner similar to that proposed for the regiment.

Solutions to the problem of reconnaissance in the brigade take two forms. First, an organic reconnaissance element can be established at brigade level. Such an organization should be primarily reconnaissance-oriented as opposed to a multi-mission type organization. A platoon-sized element with ten to twelve vehicles may be large enough. The second solution is to establish a large enough element at division level and task this element with reconnaissance support of brigades as necessary. This may be the preferred solution.

The advantages in providing the brigade with its own reconnaissance capability are primarily responsiveness and ability to optimize the reconnaissance organization in light of mission requirements. The disadvantages are increased end strength requirements, equipment overhead, and training requirements.

The advantages to the the divisional cavalry squadron picking up this mission include its multi-role combat capability, ability to "net" reconnaissance information within the squadron, and training advantages. It may be a more "cost

effective" solution. Disadvantages include reduction of assets available to the division commander and lack of immediate availability to the brigade commander. Essentially, the brigade commander would be placed in his present predicament of asking division for assets.

The battalion scout platoon is in relatively good shape. Its current missions are reasonable, but the platoon requires some organizational changes to effectively carry them out. These changes include an increase in platoon size to accommodate more vehicles, as well as an increased dismounted reconnaissance capability.

Current proposals by the Armor School to restructure the platoon into a headquarters section with two HMMWV's, a heavy section with four M3's (each with a motorcycle), and a light section with four HMMWV's seems about right. 46 However, this does not solve the dismounted reconnaissance problem, and the proposed wheeled vehicles, motorcycles and HMMWV's are inadequate. The motorcycle is not survivable. The HMMWV can be equipped with limited ballistic protection, but it lacks survivability against mines. Both vehicles lack an amphibious capability. A better solution would perhaps be to increase the number of M3's to ten per platoon, and add an infantry squad for dismounted reconnaissance.

Any improvements to the ground reconnaissance capability of the heavy corps must be balanced against real world budget and manpower constraints. It becomes important, therefore, to prioritize any remedies. The single most critical area would

seem to be the division cavalry squadron. A rectified situation could correct reconnaissance shortcomings at both division and brigade. The second most productive improvement would be to the battalion scout platoon. Again, a remedy or adjustment here would benefit both the battalion and the brigade.

APPENDIX A

FM 101-5-1, OPERATIONAL TERMS AND SYMBOLS, provides a starting point for common understanding. Terms and definitions applicable to our analysis as provided in this field manual are listed below.

INTELLIGENCE: The product resulting from the collection, evaluation, analysis, integration, and interpretation of all available information concerning an enemy force, foreign nations, or areas of operations and which is immediately or potentially significant to military planning and operations. 47

RECONNAISSANCE: A mission undertaken to obtain information by visual observation, or other detection methods, about the activities and resources of an enemy or potential enemy, or about the meteorologic, hydrographic, or geographic characteristics of a particular area. 48

SECURITY OPERATIONS: Those operations designed to obtain information about the enemy and provide reaction time, maneuver space, and protection to the main body. Security operations are characterized by aggressive reconnaissance to reduce terrain and enemy unknowns, gaining time and maintaining contact with the enemy to ensure continuous information, and providing early and accurate reporting of information to the protected force. Security operations include screening operations, guard operations, covering force operations, and area security operations. Area security operations normally are associated with rear battle operations. The other types of security operations may be oriented in any direction from a stationary or moving force. 49

A screening force: Maintains surveillance, provides early warning to the main body, impedes and harasses the enemy with supporting indirect fires, and destroys enemy reconnaissance elements within its capability. 50

A guard force: Accomplishes all the tasks of a screening force. Additionally, a guard force prevents enemy ground observation of and direct fire against the main body. A guard force reconnoiters, attacks, defends, and delays as necessary to accomplish its mission. A guard force normally operates within range of the main body indirect fire weapons. 51

A covering force: Accomplishes all the tasks of screening and guard forces. Additionally, a covering force operates apart from the main body to develop the situation early and deceives, disorganizes, and destroys enemy forces. Unlike screening or guard forces, a covering force is a tactically self-contained force (that is, it is organized with sufficient combat support (CS) and combat service support (CSS) forces to operate independently of the main body). 52

SURVEILLANCE: A systematic observation of airspace or surface areas by visual, aural, electronic, photographic, or other means. 53

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