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DEPARTMENT OF THE ARMY
Headquarters, 164th Aviation Group
APO San Francisco 96215

AVGN

1 November 1968

SUBJECT: Air Cavalry Operations in the Delta

Commanding General
1st Aviation Brigade
APO 96384

1. Reference: 1st Avn Bde Msg AVBA-C 492-C-68, Subject "Air Cav in Delta (U)" DTG 140525Z Sep 1968.
2. In accordance with instructions contained in reference message, a detailed and comprehensive analysis has been conducted by this Headquarters to examine all aspects of air cavalry employment in the Mekong Delta. In spite of the fact that the 7/1 Air Cavalry Squadron has been employed in the Delta region for less than five months, it is considered that the data developed and scope of operations conducted thus far represent an adequate basis from which sound and substantive conclusions can be drawn.
3. The primary purpose of the study, as directed, focussed upon "wet season employment doctrine for air cav units." The latitude was granted to extend the scope of the study "beyond the limited consideration of wet season tactics and techniques to include more generally applicable aspects of doctrinal employment". As the study evolved and each facet of employment was analyzed, it became more apparent that of the four classical factors of mission, enemy, terrain, and troops available, only the mission remained unchanged from that of other air cavalry units in Vietnam. The enemy in the Delta, being primarily true Viet Cong insurgents as opposed to regular NVA forces, is principally organized and moves in small groups thereby failing to present a single lucrative target. The terrain, flat, open and inundated, provides an excellent background for extensive aerial reconnaissance. The troops available, predominantly Vietnamese, both regulars and irregulars, represent another complex and challenging area of study in itself. Hence, while at the outset the effects of the Southwest monsoon may have been considered the critical factor affecting cavalry employment in the IV CTZ, the enemy, terrain and troops available actually influence employment far more.

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4. As established in the statistical summary, aerial employment was impeded only infrequently by weather and the number of weather delays or aborts were no larger than what might be encountered in the other areas of Vietnam or even in CONUS for that matter. Weather problems were more pronounced during the hours of darkness largely because of instrument deficiencies of the AH-1G and OH-6A aircraft. The combination of weather and terrain does in fact adversely affect the employment of the ground cavalry troop because of the poor road network and virtually non-existent off-road trafficability of the terrain by wheeled vehicles. This problem is equally evident during the dry season, however, it can be alleviated by MTOE action to substitute tracked vehicles for wheeled vehicles or it can be solved by limiting the ground troop's mission to an airmobile one.

5. In June, the air cavalry concept was totally new to the forces in IV Corps and since it centered around swift action and reaction, small tailored forces, and bold aggressive maneuver, it represented a radically different approach which could greatly influence ARVN airmobile operations. These operations have long been personified by large scale preplanned movements reinforced and supported by extensive artillery and/or air strike preparation. Because of the repetitious nature of these operations and the elusiveness of the enemy, large airmobile operations had begun to lose some of their earlier effectiveness in the Delta. With the advent of the air cavalry and its inherent capability to search out and make the initial contacts, the probability of a subsequent successful ground operation was greatly enhanced. Over a period of five months, the unique features of the air cavalry have become more and more attractive to the ARVN Division Commanders and when cavalry assets are available, some Commanders readily adapt their operations to capitalize on the cavalry finds. The commitment to continually cover the border area severely restricts the available cavalry troop days for Division support, hence it is not possible to maintain the momentum established with the ground forces. This has been the largest frustration associated with cavalry employment in the Delta. The mission requirements far exceed the units available and as a minimum, the detached troop should be returned to its parent squadron. The ideal structure as recommended in the study would provide one squadron to cover the Cambodian border in the 44th Special Tactical Zone and one troop per Infantry Division.

6. Specific recommendations pertaining to operations, equipment, communications and personnel are contained within the study and are probably not major departures from findings in other areas of Vietnam.

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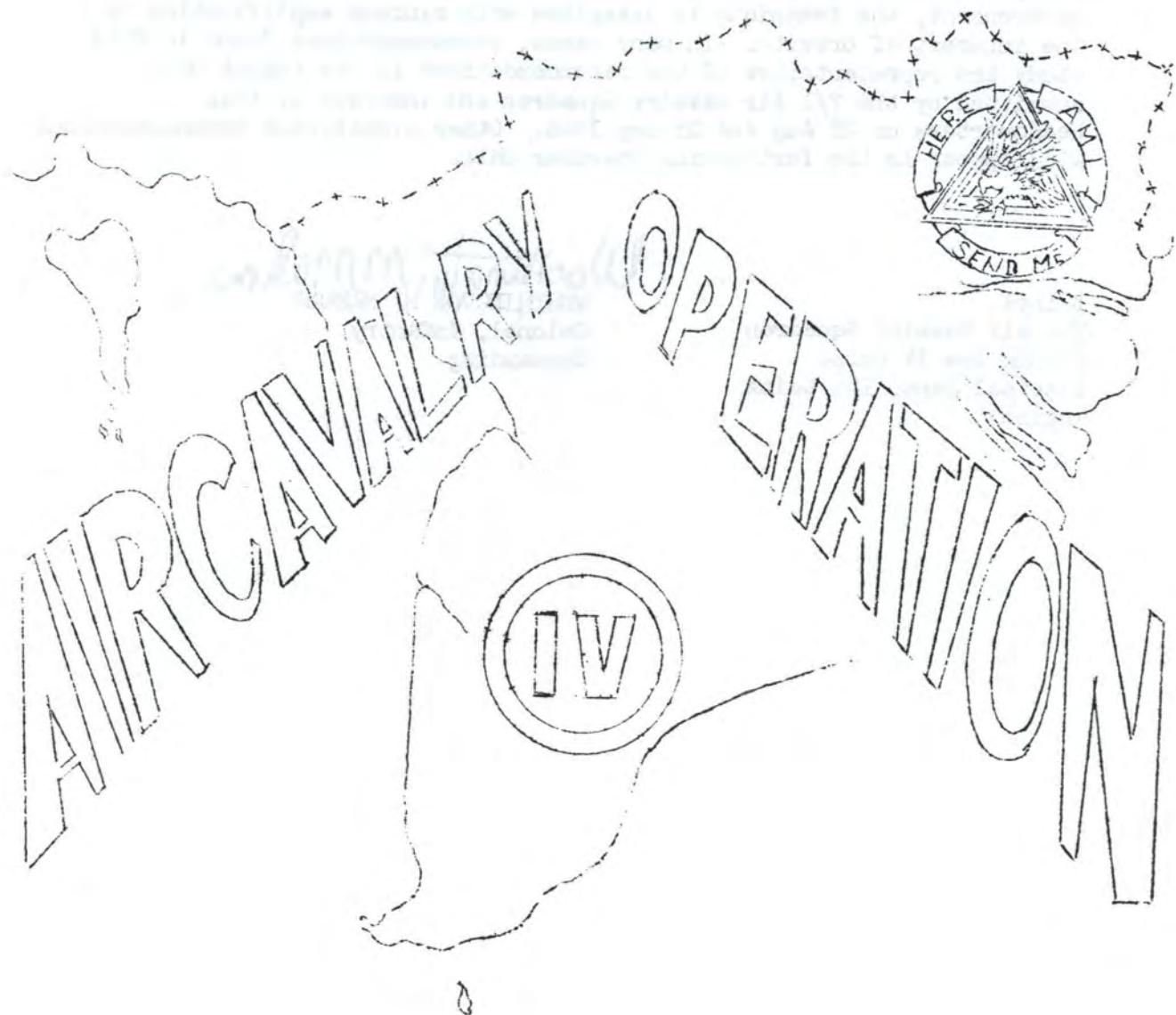
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The study is prepared so that each of the five sections can stand alone without continuous cross reference to other portions. For this reason, what may appear to be redundancy in one portion is simply reiteration so that the reader may have full continuity of thought. Where concepts and procedures are without question common to air cavalry in any environment, the technique is described with minimum amplification in the interest of brevity. In many cases, recommendations found in this study are representative of the recommendations in the August ORLL submitted by the 7/1 Air Cavalry Squadron and indorsed by this Headquarters on 25 Aug and 23 Sep 1968. Other significant recommendations will appear in the forthcoming November ORLL.

1 Incl
The Air Cavalry Squadron
within the IV Corps
Tactical Zone, The Delta
Region

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THE AIR CAVALRY SQUADRON
WITHIN
THE IV CORPS TACTICAL ZONE, THE DELTA REGION

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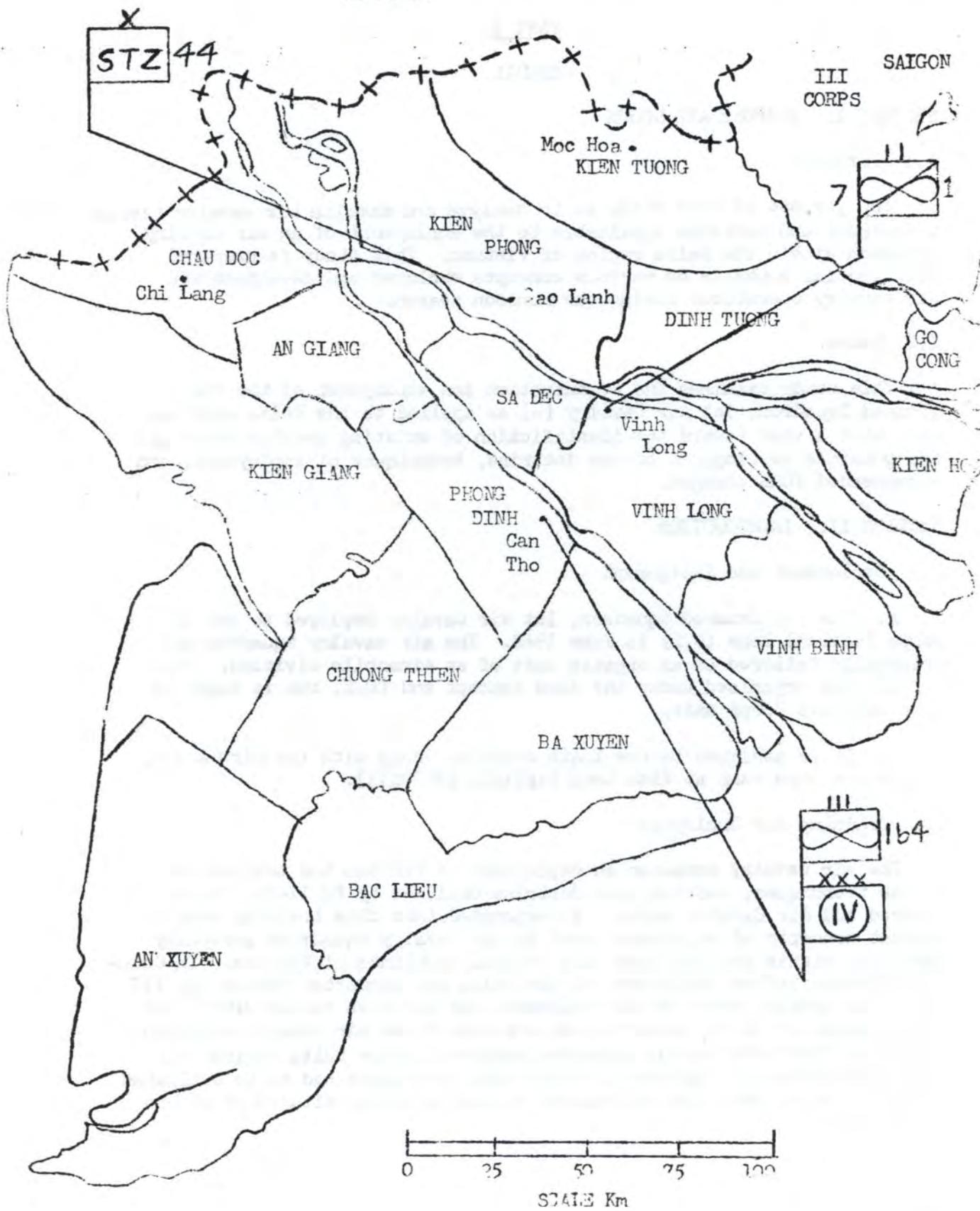
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IV CORPS TACTICAL ZONE

CAMBODIA



THE AIR CAVALRY SQUADRON
WITHIN
THE IV CORPS TACTICAL ZONE, THE DELTA REGION

PART I

GENERAL

SECTION 1. PURPOSE AND SCOPE

1.1 Purpose

The purpose of this study is to analyze and develop air cavalry tactics techniques and doctrine applicable to the employment of an air cavalry squadron within the Delta region of Vietnam. This study is prepared with special emphasis on various concepts employed and developed for air cavalry operations during the monsoon season.

1.2 Scope

This study examines the organization and employment of the 7th Armored Squadron, 1st Air Cavalry (-) as applied to the Delta environment with a view toward the identification of existing problem areas and the possible development of new doctrine, techniques of employment, and recommended TO&E changes.

SECTION II. INTRODUCTION

1.3 Deployment and Assignment

a. The 7th Armored Squadron, 1st Air Cavalry deployed to the IV Corps Tactical Zone (CTZ) in June 1968. The air cavalry squadron was originally tailored as an organic unit of an Airmobile Division. The 7/1 ACS was organized under the same concept and TO&E, but is employed as a separate Corps unit.

b. It is assigned to the 164th Aviation Group with the Air Cavalry Squadron's base camp at Vinh Long Airfield (XS 0433).

1.4 Training for Employment

The air cavalry squadron on deployment to Vietnam had trained based on the techniques, tactics, and doctrine outlined by FM 17-36, Divisional Armored and Air Cavalry units. Incorporated into this training were current concepts of employment used by air cavalry squadrons presently operating within the highlands and central highlands of Vietnam. In-Country training before deployment to the Delta was conducted within the III CTZ. Air cavalry concepts of employment had not been tested within the Delta region of IV CTZ prior to the arrival of the air cavalry squadron. Being the first air cavalry squadron employed in the Delta region, air cavalry doctrine on employment, tactics and techniques had to be evaluated and adjusted to establish guidelines to meet existing situations within the IV CTZ.

SECTION III MISSIONS AND CAPABILITIES

1.5 Mission

The mission of the air cavalry is to conduct aerial reconnaissance and surveillance within the Corps controlled area of operation utilizing both organic airborne and ground assets in a combined arms concept.

1.6 Capabilities

a. The air cavalry squadron has the capability of three-dimensional mobility with combined arms teams within each air cavalry troop.

b. The air cavalry squadron can conduct limited ground reconnaissance with its organic ground cavalry troop within the IV CTZ.

SECTION IV ORGANIZATION - AIR CAVALRY SQUADRON

1.7 General

The 7th Armored Squadron, 1st Air Cavalry is operating within the boundaries of the IV CTZ as a squadron minus (-). The organization presently consists of a headquarters troop, two (2) air cavalry troops and a ground cavalry troop equipped with all wheeled vehicles. The third TOE air cavalry troop authorized has not joined the squadron in the IV CTZ but is attached to the 12th Aviation Group with further attachment to the 3rd Armored Squadron, 17th Air Cavalry in the III CTZ. (Figure 1)

1.8 Organization and Mission

a. Headquarters and Headquarters Troop, Air Cavalry Squadron. Headquarters and Headquarters Troop is organized as prescribed by TOE 17-96T w/C 3, and by MTOE 17-098T implemented by USARPAC General Order number 401, dated 14 August 1968. The mission of Headquarters and Headquarters Troop is to furnish command, administration, communication, medical, mess, supply and squadron level maintenance for the air cavalry squadron. Within the headquarters troop, the aviation platoon is authorized five UH-1C helicopters and the maintenance platoon is authorized two UH-1H helicopters. Presently the headquarters troop has assigned 5 UH-1H helicopters. (Figure 2)

b. Air Cavalry Troop, Air Cavalry Squadron:

The air cavalry troop is organized as prescribed by TOE 17-98T w/C 1 and MTOE 17-098T implemented by USARPAC General Order number 401. The mission of the air cavalry troop is to perform reconnaissance and security for its supported unit. The air cavalry troop consists of a troop headquarters, aero-scout platoon, aero-rifle platoon and a aero-weapons platoon. (Figure 3).

(1) The troop headquarters has an aviation section equipped with one UH-1H with XM23 weapons system and one UH-1C with XM16 and M5 weapons systems. These aircraft are used for command, control, liaison and maintenance. Presently the section has two UH-1H helicopters armed with the XM23 system as a result of recent substitution of UH-1H's for UH-1C's in the Air Cavalry Squadron.

(2) The aero-scout platoon has 10 light observation helicopters (LOH) divided into two sections of 5 LOHs each. The LOHs are armed with XM27 systems and are the reconnaissance elements of the troop.

(3) The aero-rifle platoon is organized into a platoon headquarters, a lift section, and four integrated rifle squads. The platoon is authorized 5 UH-1H helicopters armed with the XM23 systems. These helicopters are the primary means of transportation for the rifle platoon. Presently the aero-rifle platoon has 6 UH-1H helicopters.

(4) The aero-weapons platoon consists of a platoon headquarters and two weapons sections with 5 AH-1G helicopters each. Presently both air cavalry troops are equipped with only 9 AH-1G helicopters in the aero-weapons platoon.

c. Cavalry Troop, Air Cavalry Squadron:

The cavalry troop is organized as prescribed by TOE 17-99T w/C 1 and MTOE 17-099T implemented by USARPAC General Order 401. It is a ground combat unit organic to the air cavalry squadron with the mission of ground reconnaissance and security, normally employed in conjunction with the air cavalry troops. It is organized with a troop headquarters, a maintenance section and three cavalry platoons. The cavalry troop is equipped with all wheeled vehicles and no organic aircraft. The cavalry platoon consists of a platoon headquarters, a scout section, an anti-tank section, a rifle squad and a mortar section. (Figure 4)

(1) The scout section consists of four $\frac{1}{4}$ ton scout vehicles with M-60 MG mounted.

(2) The anti-tank section consists of two 106 recoilless rifles mounted on $\frac{1}{4}$ ton vehicles.

(3) The mortar section consists of one 81mm mortar. The mortar is transported by one 3/4 ton truck and must be dismounted for firing.

(4) The rifle squad consists of a squad leader and nine infantry men mounted in a 3/4 ton truck for transportation.

SECTION V SITUATION WITHIN THE IV CTZ

1.9 Mission

The 7th Armored Squadron, 1st Air Cavalry is assigned the mission of general support (GS) to the IV CTZ Headquarters. The majority of missions assigned to the air cavalry squadron are primarily of a reconnaissance and security nature. Continuous reconnaissance and security missions by air cavalry aerial and ground measures provide the IV CTZ with accurate, timely, updated information of the enemy; his whereabouts, strength and capabilities.

1.10 Enemy

a. The enemy within the IV CTZ consists of two military regions controlling enemy operations within each area. Each region has regimental size forces employed within its boundaries.

b. The enemy order of battle consists of mobile force battalions, main force battalions, local force battalions and companies, and guerilla type units. Local infra-structure within each city, village or hamlet of the IV CTZ establishes enemy governmental growth.

c. The enemy is well organized within each unit. His armament capabilities increased with the flow of new equipment into the Delta region. These weapons systems found and identified within the Delta consist of small arms; AK-47, SKS rifles; RB40, 41 rockets; 60mm, 81mm, 82mm, 120mm mortar; MG: ranging from cal. 30 to 12.7mm; 57mm and 75mm recoilless rifles and 75 pack howitzers.

d. The enemy has well prepared defensive positions and takes advantage of areas well known by him, but unknown to friendly forces. The enemy takes full advantage of his knowledge on usage of booby traps to defend cache sites, and unit base camp locations.

1.11 Terrain

a. The Delta region of the IV CTZ from the Cambodian border to the tip of the Ca Mau peninsula is a heavily silted level plain area with an elevation not in excess of 9 feet above sea level except for the western area. The entire area is subject to frequent flooding. Extensive embankments have been built over the centuries to channel water into this fertile rice producing area. Mud flats and mangrove swamps encircle the Delta region along the ragged coastline. Heavy wooded areas parallel most of the honeycombed canals and the mangrove swamps within the Delta. Road networks are limited, but hard surface major roads do exist. Most of the canals carry a heavy burden of the traffic throughout the area. In the western area of the Delta region lies a complex of seven mountains. This area is heavily wooded, rocky, and extremely rugged to traverse by foot. The mountain elevation for this complex at its highest peak is 2130 feet above sea level.

b. The climate and weather in the Delta region are governed by "Monsoon Asia", which affects the Delta to such an extent that the area has a variety of climates ranging from dry seasons to heavy rains. Generally, the climate is characterized by moderately high temperatures, high humidity, and a high amount of cloudiness in both seasons.

1.12 Troops Available

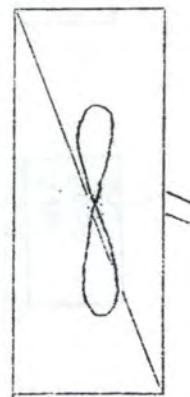
a. The air cavalry squadron as stated in organization (Section IV) is an air cavalry squadron minus (-). One air cavalry troop is detached from the squadron and attached to another cavalry squadron outside the IV CTZ.

b. The ARVN IV Corps consists of three Inf Divisions, the 7th, 9th and 21st Divisional units with attached artillery for each. Each division is made up of mobile battalions and regiments operating within provincial boundaries of the division tactical area. These units make up airmobile reaction forces for divisional or individual provincial operations. Local regional forces and popular force units (RF/PF) are located within the IV CTZ at strategic locations. These units conduct local operations within their sector of responsibility.

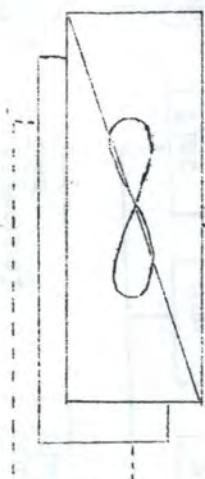
c. Within the IV CTZ, a special tactical zone consisting of the Cambodian border area is established. It is controlled by the 44th STZ Headquarters. The 44th STZ has troops available consisting of mostly Special Forces trained troops. These forces conduct independent operations within the zone under the direction of the area Special Forces advisors. Additionally within the 44th STZ are Camp Strike Forces (CSF) controlled by the 44th STZ and Special Forces. The 44th STZ has individual mobile battalions of troops along with RF/PF troops located sparsely within the area.

ARMORED SQUADRON, AIR CAVALRY

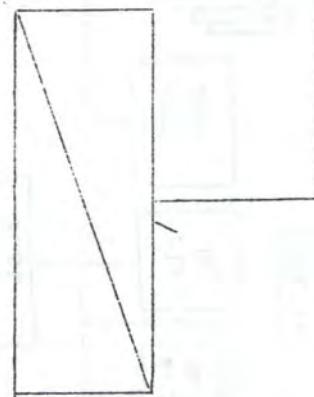
TOE 17-95T



HQ & HQ

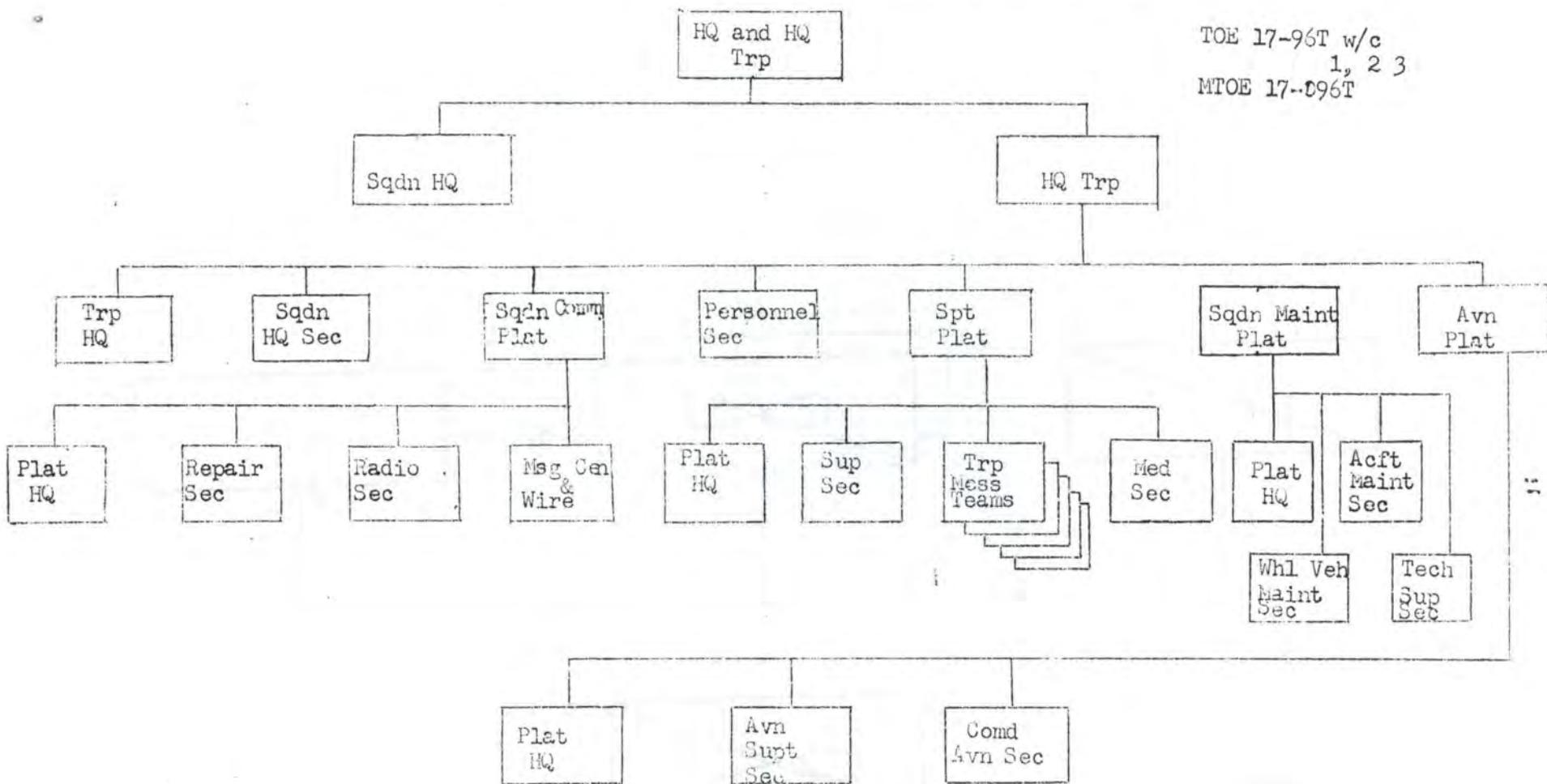


SC



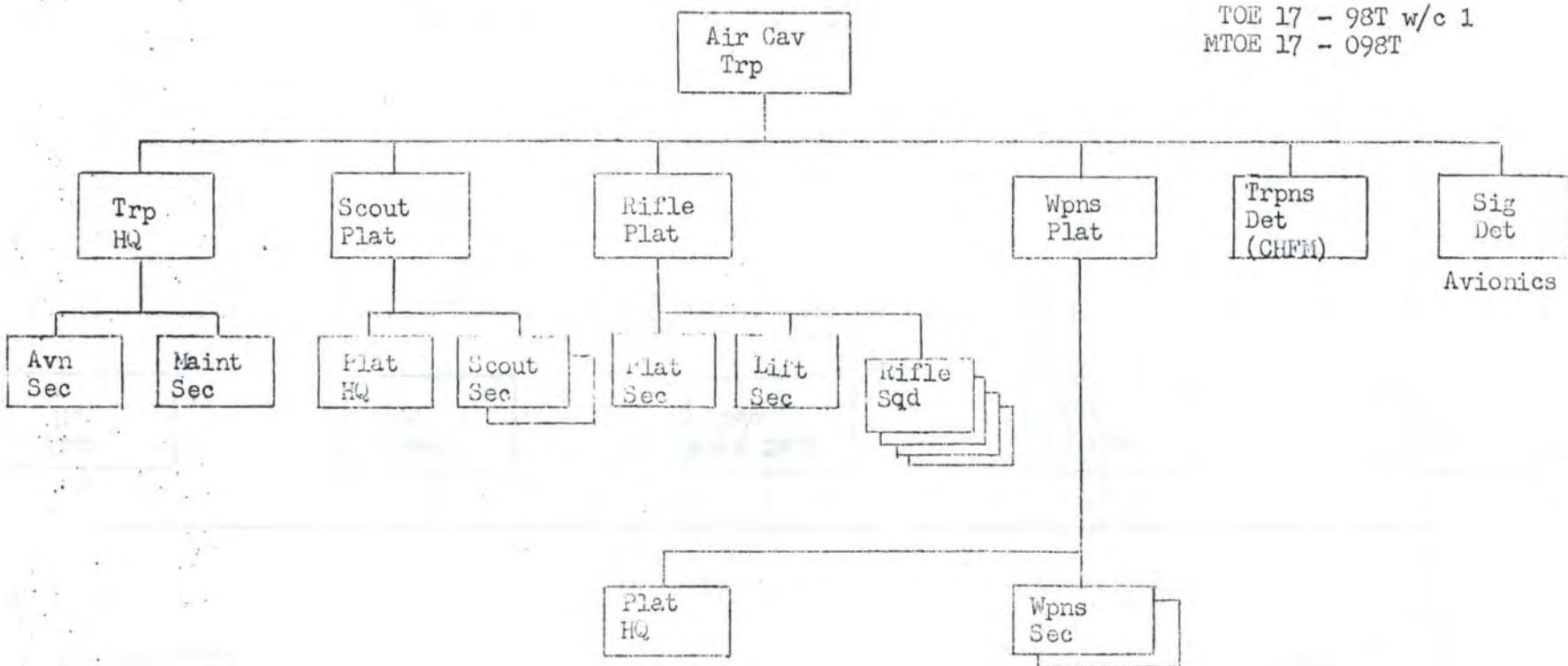
(FIGURE 1)

HEADQUARTERS AND HEADQUARTERS TROOP ARMORED SQUADRON, AIR CAVALRY



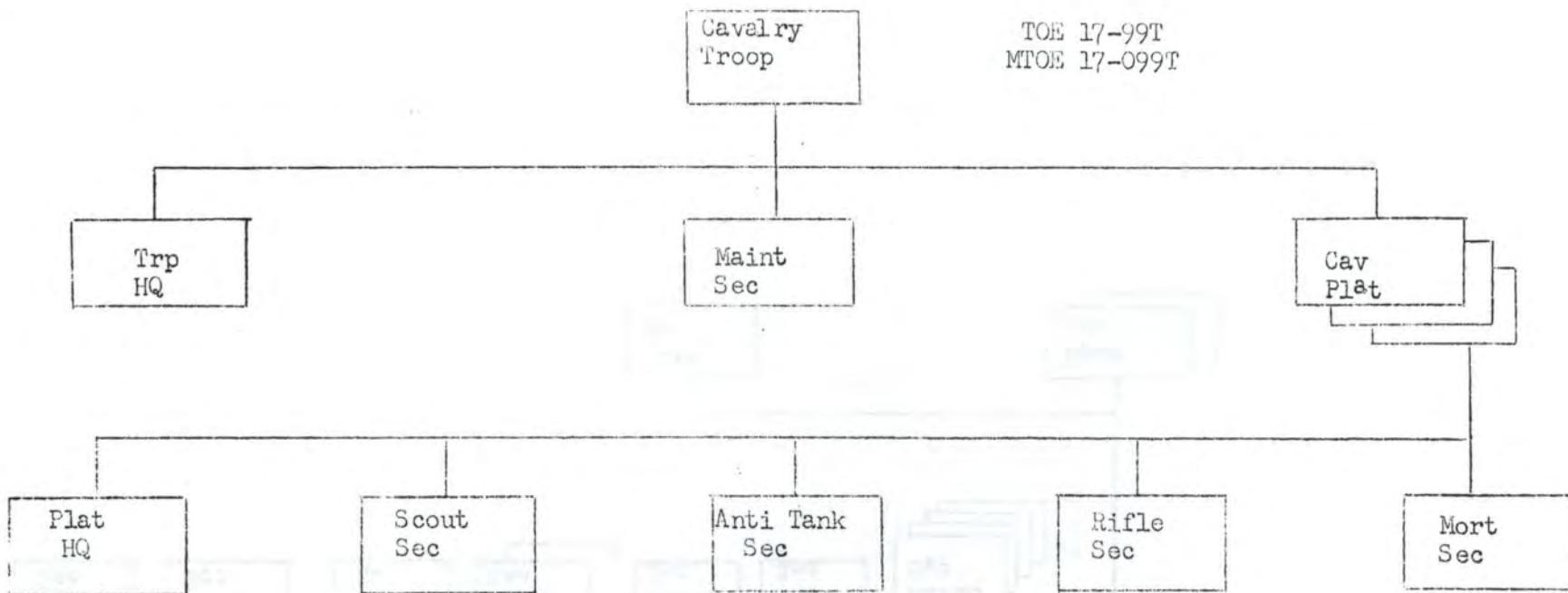
(FIGURE 2)

AIR CAVALRY TROOP ARMORED SQUADRON, AIR CAVALRY



(FIGURE 3)

ORGANIZATION CHART Cavalry Troop, 17-099T



1.3

(FIGURE 4)

PART 2

EMPLOYMENT OF AIR CAVALRY

SECTION I. MISSION AND SPECIFIC TASKS

- 2.1 General
- 2.2 Mission Assignments
- 2.3 Squadron Placement
- 2.4 Reconnaissance Operations
- 2.5 Security Operations
- 2.6 Economy of Force Operations

II. ORIENTATION OF MISSIONS.

- 2.7 Operation Blackhawk
- 2.8 Division Operation
- 2.9 Independent Operation
- 2.10 Special Operation

EMPLOYMENT OF AIR CAVALRY

SECTION I. MISSION AND SPECIFIC TASKS

2.1 General

The air cavalry squadron is organized, trained and equipped to perform reconnaissance and security for the unit to which it is assigned or attached within the IV CTZ.

2.2 Mission Assignments

a. The employment of the air cavalry squadron within the IV CTZ is based on the mission assignment from IV CTZ through the 164th Aviation Group. Such missions for the air cavalry are:

- (1) Border surveillance and supply route interdiction.
- (2) Reconnaissance operations combined with ARVN divisional operations.
- (3) Security operations including flank guard and screening force operations.
- (4) Counterinsurgency specialized operations, raids and ambushes.
- (5) Night surveillance combining air surveillance devices with armed helicopters.

b. The missions assigned to the ground cavalry troop include:

- (1) Route reconnaissance and route security.
- (2) Convoy security.
- (3) Perimeter or installation security.
- (4) Flank security for operations bounded by roads.
- (5) Airmobile reaction force without vehicles.
- (6) Dismounted sweeps.

(7) Specialized missions; show of force, minesweeping, demolitions, night ambushes.

c. The squadron employment for these missions within the IV CTZ is pre-determined by IV CTZ headquarters advisory personnel. Preplanned operations are approved by IV CTZ usually a week in advance. The air assets and supporting unit are committed to these operations by issuance of a weekly operational guidance warning order for employment of the squadron's organic assets. This operational guidance specifically states by unit designation, what unit will support and what unit is supported, on a daily basis for the ensuing week. Changes to troop mission commitments are passed through the squadron to the respective troop placed under operational control (OPCON) to the supported unit on an as required basis.

d. Employment as a squadron entity in the IV CTZ is held to a minimum because of the broad commitments requiring independent troop operations rather

than a mission involving the squadron and issued as a squadron mission.

e. The primary mission of the air cavalry squadron presently is geared to an OPCON status to the 44th STZ for conducting border surveillance and interdiction of enemy supply routes within the zone. Additionally, with the squadron being in the general support role to the IV CTZ, it must periodically place one of its air cavalry troops or both under operational control of ARVN divisions to conduct reconnaissance in support of a divisional operation.

2.3 Squadron Placement.

a. The air cavalry squadron operates from a home base camp at Vinh Long (XS 0433) with a squadron forward liaison team located at Cao Lanh (WS 7055), the headquarters of the 44th STZ. All maintenance support and supply activities remain with the squadron trains at the base camp in a fixed installation.

b. Air cavalry troops operate from this base camp into the operational area, utilizing stagefields established throughout the IV CTZ for refueling and rearming. After the daily operation terminates and when night operations are not scheduled, the cavalry troops return to their squadron base camp for maintenance and preparation for the next day's operation.

c. The air cavalry troops establish liaison teams within each area of responsibility of the 44th STZ. These liaison teams are co-located with representatives, both US advisors and Vietnamese counterparts, of the 44th STZ at the staging areas of Moc Hoa (XS 0391) and Chi Lang (WS 0363).

2.4 Reconnaissance Operations.

a. Reconnaissance is one of the principal missions of the air cavalry squadron. The air cavalry squadron can perform reconnaissance operations as a squadron or by tasking one of its organic troops to perform the mission separately. The conduct of the mission within the IV CTZ is handled utilizing operational control (OPCON) status of the squadron or troop to a supported unit of the IV CTZ. Generally all reconnaissance missions within the IV CTZ have been performed using OPCON status of troops performing route, area, and zone reconnaissance.

b. The air cavalry troop performs reconnaissance operations by using its air teams to obtain the information desired.

(1) Route reconnaissance within the IV CTZ is an absolute necessity to keep the major road network and main supply route (MSR) open. The air cavalry troop conducting route reconnaissance in the IV CTZ checks the enemy interdiction of these routes by constant surveillance. Bridge classification and obstacle destruction are limited with an air cavalry troop conducting route reconnaissance. Route reconnaissance is conducted utilizing the air cavalry troops aero-scout platoon and aero-weapons platoon operating in teams. The aero-scout team reconnoiters the route at low level while the aero-weapons teams provide overhead cover. The aero-rifle platoon is committed to conduct ground reconnaissance along the route in areas which cannot be adequately reconnoitered from the air.

(2) The air cavalry troop conducts area reconnaissance daily in support of the IV CTZ. Area reconnaissance within the IV CTZ entails air cavalry troops working with ARVN division operations and the 44th STZ. Area reconnaissance is the mission best suited to the air cavalry troop and it provides

detailed information about enemy forces, terrain and any other specific information desired to the supported unit within the IV CTZ. Area reconnaissance as conducted by the air cavalry troops of the air cavalry squadron is described in Section II in detail.

(3) Zone reconnaissance was conducted by the air cavalry troop within the IV CTZ only as a squadron mission when the air cavalry squadron deployed to the IV CTZ. Zone reconnaissance defined by boundaries has not been employed with either the ARVN divisions or the 44th STZ of the IV CTZ.

c. The cavalry troop performs reconnaissance operations within the IV CTZ utilizing its mobile ground vehicles combined with its organic firepower.

(1) The cavalry troop is well suited to conduct route reconnaissance in the Delta. The preponderance of reconnaissance missions assigned to the cavalry troop have been of the route reconnaissance variety. These missions have been performed by the entire troop or portions of the troop, but not smaller than one platoon. The cavalry troop has reconnoitered many of the major routes in IV CTZ. In actuality, the route reconnaissance missions assigned to the ground troop were of a show of force nature to make the Vietnamese population aware of the cavalry and US presence and to build a feeling of trust and confidence. Many of the routes in the Delta had never been traveled by a US unit until the cavalry squadron arrived in the IV CTZ. The impact of the cavalry's presence on the population cannot be measured; however, they were well received in all areas and appeared to have general population approval.

(2) The cavalry troop has not conducted area reconnaissance in the IV CTZ. It has conducted some dismounted area sweeps around the base camp at Vinh Long, searching for enemy activity and weapons.

(3) The cavalry troop participated in only one zone reconnaissance operation while in the IV CTZ. This was in conjunction with a route reconnaissance from III CTZ to IV CTZ on deployment of the entire squadron to Vinh Long. Since that mission, the cavalry troop has not conducted zone reconnaissance within the IV CTZ.

2.5 Security Operations.

a. Security operations by the air cavalry squadron within the IV CTZ are incorporated with reconnaissance by the air cavalry troops and the ground cavalry troop. The squadron has not been assigned a security mission as a squadron effort for the IV CTZ. The air cavalry troops normally revert to security missions during phases of division support operations, border surveillance and area reconnaissance missions in the IV CTZ. Security is a mission that will frequently be assigned to an air cavalry troop. The cavalry troop conducts security operations in the IV CTZ at a ratio of security missions as opposed to reconnaissance missions of 4 to 1. Security operations that the air cavalry troops conduct in the Delta are border surveillance, screening, installation, convoy and route security missions.

(1) Border surveillance is a security mission combined with area reconnaissance conducted by the air cavalry troops of the squadron. The mission of the air cavalry troops conducting border surveillance provides the Corps with an early warning device matched with immediate offensive action by the troop to react to the enemy within the 44th STZ. The concept of operation of the air cavalry troops is explained in Section II, entitled Operation Blackhawk. The Cavalry troop has not performed a border surveillance mission in the IV CTZ due to the vastness of the border area and the lack of cross country mobility, which renders most of the border inaccessible to the cavalry troops wheeled vehicles.

(2) Screening operations are conducted by the air cavalry troops and the ground cavalry troop while participating in supporting operations in the IV CTZ. The air cavalry troops conduct screening operations in conjunction with their supporting role for ARVN divisional operations and also with the 44th STZ. Usually the screening mission is not given as a mission per se, but it is assumed after the area reconnaissance mission has been completed and contact is established. Based on the airmobile concept in the IV CTZ, the air cavalry troop reverts to a screening mission automatically once an airmobile reaction or division controlled insertion takes place. The air cavalry troop supporting this operation covers the area encompassing the insertion to prevent reenforcement and withdrawal of the enemy. The screening mission of this type is conducted using aero-scout and aero-weapons teams operating as an entity to seal off the entire frontage and flanks of the operation and providing continuous coverage. This is accomplished by relieving each team on station after allotted periods of time. The cavalry troop has been assigned this mission rather sparingly, the most recent example being the combined ARVN and US operation against Nui Coto Mountain near Tri Ton in the Seven Mountain area of the 44th STZ, 12 July 1968. The Cavalry troop was assigned the mission of screening the east side of the mountain while the ARVN 9th Armored Cav screened the south and west flank of the mountain. The route to the screen line was cut in six different locations by streams which could not be forded due to the swollen conditions caused by heavy rains. This condition was discovered during a previous day's reconnaissance. This prior knowledge resulted in the cavalry troops taking additional demolitions and PSP with their convoy to build six temporary bridges enroute to occupying their assigned positions. The ARVN 9th Armored Cavalry moved to their positions in armored personnel carriers (M-113) with no difficulty. The screen was established utilizing 9 observation posts spaced along a road from Tri Ton to a contact point with the ARVN 9th on the south. Once established, the screen was very effective with nine strong OP's and the 81mm mortars in battery at a central location. Several small groups of VC attempted to leave the mountain by infiltrating through the screen. These attempts were unsuccessful as the cavalry 106 recoilless rifles and 81mm mortars accounted for 16 VC KIA. Class I, III and V items were air lifted to the troop by organic aircraft, resupply by wheeled vehicles could not be accomplished.

(3) Installation security is conducted by all the available assets of the squadron on a nightly basis. Operations in the IV CTZ usually terminate before dark to allow the ARVN units to return to their installations to conduct perimeter defense during the hours of darkness. With the squadron established in a permanent base camp at Vinh Long, it has been tasked with security of approximately one-half of the entire perimeter. The two air cavalry troops and the cavalry troop participate nightly in this defensive posture. Permanent 81mm mortar positions in battery and 106mm firing positions are constructed within and around the Vinh Long Airfield perimeter. These positions along with twenty-one three-man perimeter bunker positions are manned every night the unit is at Vinh Long. The squadron or a troop remaining overnight away from the airfield creates a gap in the overall airfield defense plan. The air cavalry troop has not remained away from the base camp in the IV CTZ because the troop does not have the capability of securing itself. The cavalry troop has participated in extended operations away from the squadron base camp, the longest being a period of 10 days. This required the rifle platoons of the air cavalry troops to fill the gaps in the perimeter during the cavalry troop's absence. The cavalry troop has also secured artillery fire support bases on numerous occasions in support of operations conducted by the US 9th Infantry Division. The same techniques are used to secure artillery batteries that are used to secure fixed installations with some exceptions. The mortars are used to provide illumination support.

rather than H & I fires. Artillery units usually have some organic perimeter defense support in the form of 40mm dusters and Quad 50 machine guns. The cavalry commander is usually charged with the responsibility of integrating these weapons into the perimeter defense plan.

(4) Convoy and Route Security - This mission has been performed more often than any other type mission by the cavalry troop. The cavalry troop, employing platoon sized units, escorted all of the squadron wheeled vehicle convoys from I An to Vinh Long during the period 4 June to 16 June 1968. The 106mm recoilless rifles, firing beehive rounds, were employed on one occasion to break an ambush during one of the early convoy escort missions. This was probably the first time the 'Delta VC' had encountered the 106 RR and may have had a significant impact since the convoys were not ambushed again. Many supply convoys have been escorted by the troop into various operational areas throughout IV CTZ which are served by a road network. When enemy contact is imminent, gunships from the squadron are placed under the operational control of the convoy commander for immediate fire support. In areas where great distances are involved, an LOH is placed under the operational control of the cavalry troop for radio relay purposes. In many instances, the convoy commander rides in this LOH to assist in command and control of the convoy, especially if the convoy is a particularly large one. As the convoy passes into a different sector, radio contact is established with the sector to coordinate movement of the convoy and receive the latest route information and enemy situation reports. This technique expedites movement of the convoy and sector advisors usually coordinate with their counterparts to provide traffic control assistance through built-up areas and critical points such as bridges and ferry sites.

2.6 Economy of Force Operations.

Generally speaking, the majority of the missions performed by the squadron throughout IV CTZ are economy of force type operations. By its very nature, Operation Blackhawk is a striking example of the squadron performing an economy of force mission. The squadron is employed to maintain surveillance over the vast border area in 44th STZ while the maneuver battalions are employed in support of the ground tactical plan of the IV Corps.

SECTION II. ORIENTATION OF MISSIONS

2.7 Operation Blackhawk.

a. Operation Blackhawk has been and continues to be the primary mission of the squadron. It is designed to provide border surveillance and interdiction along the Cambodian Border within the 44th STZ. This is designed to be conducted over a 24-hour period to include day and night operations. The 44th STZ is sub-divided into two zones, one with two provincial areas, the other with one and a special border area. Operationally, this equalizes with the squadron's capability with only two of its organic air cavalry troops available for commitment.

b. The daylight operation is conducted utilizing two air cavalry troops, each being responsible for the reconnaissance effort within defined areas of operation. The area of operation for Troop A encompasses Chau Doc and a special border area of Kien Giang Province. The central staging area is at Chi Lang. Troop C operates in Kien Phong and Kein Tuong Provinces with a staging area at Moc Hoa. Each air cavalry troop conducts area reconnaissance within these provincial and special boundaries with a minimum aircraft requirement of 4 LOH's of the aero-

scout platoon, 4 AH-1G's of the aero-weapons platoon, and 4 UH-1H's with the organic rifle squads from the aero-rifle platoon. The Troop Commander or his designated representative flies in a command and control aircraft, usually a UH-1C, from the headquarters aviation section. Presently the UH-1C is being replaced with a UH-1H without an armament system. The aircraft requirement is based on the present availability of TOE and mission-ready aircraft status within the air cavalry troop and the requirement to sustain 24 hour operations as necessary. This task organization of the air cavalry troop is augmented at each staging area with 44th STZ troops of approximately 100 Camp Strike Force personnel. A mobile reaction battalion is designated by the 44th STZ to exploit air cavalry findings, but the airlift capability is usually supplied by the tro

(1) The concept of operations of both employed air cav troops is defined as a detailed area reconnaissance. Specific attention is given to designated targets programmed by the troop liaison team and a US/ARVN representative of the 44th S at each staging area. The 44th STZ has placed a US representative with an ARVN counterpart, a C-2/3 ARVN Staff and a POW/Interrogation team at each staging area. This staff, along with an air cavalry troop liaison team, targets the troop based on current intelligence in each area of operation. Programming of these targets is a continual effort to obtain maximum results from the air cavalry troops during the scheduled day of commitment in the 44th STZ. Based on the commitment of air cavalry troop support to ARVN divisional operations, the 44th STZ will not always have both air cavalry troops conducting area reconnaissance within the 44th STZ. When the air cavalry troop is committed to a division operation, the liaison team is pulled back from the respective troop stagefield to establish direct liaison with the supported unit for the following day. This leaves the 44th STZ team without an air cavalry liaison team to advise, collect and coordinate operational intelligence for proper targeting of the air cavalry troop when it returns from commitment elsewhere within the IV CTZ.

(2) Tactically, the air cavalry troop is employed utilizing teams of the aero-scout and aero-weapons platoons to conduct detailed area reconnaissance to develop significant targets for subsequent attack by ground forces. At each staging area or within close flying distance from the area, each air cavalry troop is augmented by the 44th STZ with supplemental ARVN infantry forces of approximately 100 CSF personnel. This force acts as the air cavalry troop's aero-rifle platoon, in conjunction with, or as an immediate backup force to a committed aero-rifle platoon. Command of these forces remains with the US Advisor, but under operational control of the troop working in the area. The 44th STZ had placed these forces OPCON to each air cavalry troop. Additionally, the 44th STZ has established a battalion size unit on call in each area of operation for immediate deployment into areas of contact developed by the air cavalry troop. Air assets to lift this battalion come from the IV Corps airmobile assets of the 164th CAG which are continuously engaged in other operations. Since the aircraft are not on ramp standby and must be diverted from other missions, delays in reaction time are experienced in exploiting a good target. When the reaction force is committed, it is deployed and controlled by the 44th STZ. Occasionally, through the lack of available aviation assets of the 44th STZ, the air cavalry troop lift section must insert the battalion in lieu of using Corps airmobile assets. The ground commanders are reluctant to use the squadron aircraft for insertions and extractions because the limited lift capability immediately available from the air cavalry troop (five aircraft) will not permit a mass insertion or extraction.

(3) The daylight execution of Operation Blackhawk is conducted employing the combined teams of the aero-scout and weapons platoons with the aero-rifle platoon lift ships on ramp standby at the staging area.

The scout and weapons teams conduct area reconnaissance within the area of operation utilizing a hunter-killer concept. The two scout LOH's fly low (nap of the earth) performing an extensive search of the area while the two weapons AH-1G's orbit high above to provide immediate gunship support for exploiting a target. Based on contact and scout team reconnaissance, the weapon team is employed to strike the target. Rules of engagement apply to insure that indiscriminate fire does not occur. Specified strike zones are designated by the 44th LNO before the troop is employed in a given area of operation. Reconnaissance by fire is held to a minimum within the IV CTZ because of the population density in congested areas. The scout and weapons team is relieved on station based on time, fuel consumption and an air radius of action from the staging area. Operational and situation briefings from one team to another occur on station. Within each area of operations there is only one suitable staging area for immediate refueling. Distance to the refueling area plays an important part in the detailed reconnaissance effort in both 44th STZ areas of operation.

(4) The air cavalry teams can be committed as a combined effort; however, a constant surveillance effort is lost when fuel consumption requires all teams to return to the staging area at one time. Situations do exist where each team may be employed in a heavy configuration. In such instances, each team may be augmented with one or more aircraft to increase the teams' reconnaissance and aerial gunfire capability.

(5) All intelligence information is relayed to the troop liaison team and the 44th LNO at the staging area by spot reports and timely situation reports. The troop liaison team maintains FM communications with the troop elements in the operational area at all times. Information is sent back to the squadron station, co-located with the 44th STZ headquarters, from both troop areas of operation. This allows the liaison team at the FWD station to continually brief the 44th STZ staff and their counterparts on the existing situation in each troop area. The liaison team then sends this information back to the squadron base camp by FM, AM or direct hot line telephone communication to keep the squadron aware of the situation in both areas.

(6) Based on contact or intelligence from the scout and weapons teams, the aero-rifle platoon or the supplemental unit supplied by the 44th can be committed to exploit the situation. This is done utilizing an airmobile concept under the direction of the troop mission leader employing all the troop assets available in the area of operation. The scouts are used to seal off the area and select a suitable landing zone (LZ) for the incoming aero-rifle platoon. The weapons team escorts the lift aircraft into the LZ and then orbits overhead for immediate support to the ground forces. Once the force is committed on the ground to exploit, the scout team screens to the front or flanks. The platoon team relieves on station to provide direct fire support and continuous surveillance to the ground forces at all times. The troop carrying UH-1H's return to the staging area for immediate pick-up of additional forces if required. This is an extremely critical point in operations of this nature. The squadron must have the capability of rendering immediate assistance by diverting elements of another troop or troops as required. The combined lift aircraft of the squadron may be required to lift the reaction force to the scene of heavy contact. When employing individual troops in separate areas of operation, it is more difficult for the squadron to consolidate combat elements to meet a tactical emergency. If the inserted ground forces do not establish contact or fail to locate indication of

enemy activity in the area, the lift aircraft will immediately extract the force. An airmobile extraction will be executed with the combined elements of the air cavalry troop.

(7) Once the committed forces do exploit and develop a situation of intensity, the 44th must react immediately to the situation by deploying the reaction force. At this time the air cavalry troop lends its support to the committed ground forces until conventional ground troops arrive in the area of operation with additional support. Once the 44th has reacted with the deployment of reaction forces, the air cavalry troop reverts to a flank, screening, or blocking mission in conjunction with the 44th operation. Command and control of the entire operation is under the direction of the 44th STZ.

(8) During Operation Blackhawk the availability of tactical air support and artillery in direct support of the air cavalry troop in the Special Zone is somewhat limited. Tactical air support works in conjunction with the 44th STZ preplanned mission assignments for strikes at designated targets. These strikes are controlled by 44th STZ province air liaison officers. Immediate strikes and troops-in-contact strikes are not readily available to the respective air cavalry troops unless TAC air is in the immediate troop area working for a province forward air controller. Artillery covers some portions of the 44th STZ, however the range of these artillery pieces do not reach into all the border areas of operation in which the air cavalry troops operate. Consequently, the air cavalry troop supplements the lack of artillery by the use of the weapons platoon's AH-1G. This organic firepower is being used to support ground troops and against enemy positions and bunkers discovered by the scout teams. In this concept the aero-scout team acts as an airborne forward observer, marking the target with white phosphorous and smoke grenades. This method of identification enables the weapons aircraft to readily spot the position of the target.

c. The night portion of Operation Blackhawk consists of night surveillance of the Cambodian Border area combining air cavalry troop assets with Corps aviation support. The air cavalry troop task organization consists of one UH-1H with flares and two AH-1G helicopters. IV Corps completes the surveillance package by furnishing, on request, two OV-1 Mohawks equipped with electronic surveillance devices.

(1) The concept of operation is designed to provide continuous surveillance of the border area of the IV CTZ, specifically within the 44th STZ. The conduct of the operation entails periodic overflights of a specific area at irregular times during the hours of darkness. Targets located by the Mohawks are engaged by the cavalry gunships after permission to fire is granted by 44th STZ.

(2) Briefings are conducted at an established stagefield within the 44th STZ with the air cavalry and the Mohawk crews. This is done before darkness on the evenings a mission is to be run. Missions are controlled by the 44th STZ and requests for Mohawk support are generated by the 44th STZ and approved by IV Corps. Specific instructions on target areas, designated strike areas and procedures to be followed by the teams are briefed by representatives of the 44th STZ and the air cavalry troop liaison team in the area. The specific areas of interest are formulated based on current intelligence and a collection effort geared to interdict supply routes and enemy infiltration along the Cambodian Border.

(3) The surveillance package usually conducts the nightly mission twice during the evening, utilizing a hunter-killer concept of employment. The OV-1's

fly designated routes to get maximum coverage of the area at an operational airspeed of 150 kts utilizing either infrared (IR) or side-looking airborne radar (SLAR) devices to detect movement and targets within the area. The reduced air speed used by the Mohawks allows the AH-1G's to remain in close proximity to the Mohawk team. The AH-1G's and the flare ship follow a short distance behind prepared to illuminate and strike any targets detected. Rules of engagements apply on all strikes and permission must be granted before engagement. The 44th STZ has imposed a curfew restriction after certain hours of darkness to eliminate friendly traffic in the entire 44th STZ and preclude inadvertent firing incidents.

(4) Once the OV-1's have detected a target electronically and permission to fire is received, the weapons team attacks the target. The OV-1 marks the target with a small flare to identify the target area of detection, then the UH-1H flareship provides continuous illumination for the attacking AH-1G's. The permission to engage must come from both the US advisor and his counterpart or designated representative at the province headquarters controlling the area. After successfully striking the target area, the teams reform and continue the mission. Normal planning range of the OV-1's and AH-1G team is two hours before the helicopters must refuel and re-arm the weapons systems and flare ship. The OV-1's continue the surveillance effort and await the return of the air cavalry troop assets to exploit targets found. Because of darkness and the terrain, results of the fire team strikes are usually not known until ground forces can be committed to verify the effects of the strike. The AH-1G should not normally be used to make damage assessment because of its relative vulnerability at low levels. It is not a reconnaissance vehicle and is subject to flank and rear vulnerability at lower altitudes. The AH-1G has similar limitations during daylight operations; however, during night operations the instrument limitations of the aircraft amplify the limitations for safety reasons.

(5) The hunter-killer technique of night surveillance has limited somewhat enemy movement through the area during the evening hours. These missions are not performed on a specified schedule on any given night, but are constantly varied to keep the enemy confused and off balance. Intelligence collection plays an important part in this operation. Proper targeting combined with designated strike areas and an imposed curfew decreases the capability of the enemy.

(6) Weather conditions, such as haze, smoke, thunderstorms and ceiling limitation curtail night operations in the Delta. Night flying without a visual horizon and inadequate aircraft instrumentation seriously restricts AH-1G employment in this operation. The OV-1 has the capability to sustain instrument flight; however, the AH-1G cannot accomplish the mission successfully if the pilot cannot visually acquire the target or the target area.

2.8 Division Operations.

a. The air cavalry squadron supports ARVN division operations in the IV CTZ by troop assignments based on the operational guidance from Corps and the 164th Group. Usually an air cavalry troop will be tasked to perform area reconnaissance for a division conducting a preplanned airmobile operation. Such operations involving preselected courses of action and areas covered are representative of all three ARVN divisions in the IV CTZ. The ARVN division normally generates their operations based on the number of air assets allotted for the conduct of the operation. The use of airmobile assets of the 164th Avn Group in conjunction with an air cavalry troop's reconnaissance effort enables the

Vietnamese to conduct operations daily within the entire IV CTZ. The airmobile concept of these operations involves insertion after a brief area reconnaissance and then extraction of troops before evening hours. Overnight operations to maintain contact are not sustained throughout the Delta.

b. The task organization for a divisional operation includes a numbered ARVN division with regimental size units committed to the daylight airmobile operations. The air cavalry troop generally conducts the reconnaissance operation with 4 LOH's from the aero-scout platoon, 4 AH-1G's from the aero-weapons platoon, 5 UH-1H's with the organic rifle squads of the aero-rifle platoon and 1 UH-1C/H for command and control.

c. The conduct of the operation begins with an operational briefing with the committed air cavalry troop's liaison team and representatives of the supported division. Coordination with the supported unit involves a discussion of the prepared operation order and preplanned overlays, air movement tables, areas of operation for the air cavalry troop, designated reaction battalions and all available supporting fires. Usually, TAC air and artillery fire support are available to the division. The liaison team returns to the troop and conducts an operational briefing on the mission. The air cavalry troop is under the operational control of the supported unit. Because of the distance from base camp, the air cavalry troop will normally stage from a secure airfield which is near the area of operation. This utilization of major airfields and resources available reduces the support requirements of the squadron. Ammunition handlers, POL personnel and stagefield support troops (ARVN) are permanently assigned to most major stagefields in the IV CTZ. The air cavalry troop stages from its base camp or a forward staging area and performs the reconnaissance by using aero-scout and aero-weapons teams working in a designated area of responsibility. The aero-rifle platoon is on ramp standby at the stagefield along with a company of the mobile reaction battalion. This company is used in direct support or in conjunction with the aero-rifle platoon once committed. The scout and weapons team is relieved on station by another team. This is coordinated based on fuel consumption, area of responsibility and distance of the operational area from the staging area. Most operations in the IV CTZ utilize the air cavalry troop to perform a quick reconnaissance before the preplanned airmobile operation starts. This is usually a 30-45 minute reconnaissance effort over the entire operational area immediately prior to the first preplanned airmobile insertion. Once the airmobile insertion is completed, the air cavalry troop reverts to a screening mission for the ground units or is given a new mission in another sector of the operational area. Invariably, the air cavalry troop establishes contact with the enemy on the periphery of the preplanned operational area. The reaction forces are on standby to support the preplanned operation which is by then in progress so the cavalry must frequently exploit and defeat the enemy using organic resources. The statistical summary in Part III indicates the results achieved by the air cavalry troops while working with ARVN Divisions. It is felt that the results achieved by the air cavalry troop is leading to a reevaluation of present tactics and ARVN units are recognizing the tactical successes which can be achieved during reaction type operations as opposed to operations involving airmobile insertions at preselected areas and times.

2.9 Independent Troop or Squadron Operation.

a. Independent troop operations are conducted within the IV CTZ. Most of the independent missions performed are confined to an air cavalry troop's aero-rifle platoon or a portion of the cavalry troop conducting installation

security sweeps around the squadron's base camp at Vinh Long. On all dismounted sweeps around the installation base camp, Vietnamese National Police accompany the units of the squadron. The police personnel assist greatly in the interrogation and collection of intelligence information, thus reducing a definite language barrier which exists in the IV CTZ. The use of the policemen betters Vietnamese-American relationships within the civilian communities. These police-trained personnel have the authority to perform a detailed search of areas, question personnel and arrest individuals of a suspicious nature. Their presence has significantly increased the effectiveness of the sweeps.

b. The cavalry troop has conducted numerous independent operations by providing convoy security, fire support base security and mounted show of force operations along with periodic dismounted sweeps in conjunction with installation security.

c. The cavalry troop has been employed on independent missions as an ambush force. The troop has conducted many night ambushes along suspected enemy supply and troop movement routes. The majority of the troop experience missions of this nature was gained in III CTZ; however, the tactics and techniques are equally applicable to the IV CTZ. The initial efforts of the troop were marginally effective at best, primarily due to inexperience and lack of training. The troop conducted all night ambushes in the dismounted role. The squadron lift ships were used to insert the ambush forces, normally 2 platoons of 30 men each. Feinted insertions and extractions were used for deception purposes. Once the ambush force was inserted, it was not anticipated that a night extraction would be made even if the ambush were triggered. Based on this assumption, the 60-man force carried as much ammunition as possible and the squadron retained gunships and a flare ship on 5 minute standby to support. As mentioned earlier, the initial efforts of the ambush force were not too effective. The key to any ambush is the claymore mine. The claymore is issued with a firing device for each claymore, thus requiring many individuals to fire the mines. The first ambush triggered yielded a total of three sets of sandals 1 bag of rice and a cutting knife; no bodies. In analyzing the results of the ambush, it was discovered that only a few claymores were detonated and they were detonated too early by overanxious troops. With the assistance of the 525th Signal Battalion, the troop created a multiple claymore firing device capable of firing 20 claymores simultaneously. The device was carried out to the next ambush site and wired to 20 claymores. Individual claymores were set up in a secondary bank for protection against attack. A large enemy force moved into the kill zone about midnight and the platoon leader triggered the device killing 15 NVA soldiers. Five additional NVA were killed before the air cavalry gunships arrived and forced the enemy to break contact and withdraw. Gunship support had been planned in detail and accurate rocket fire was placed within 50 meters of the ambush perimeter. Four major items are used to control gunship support at night.

- (1) Compass.
- (2) Radio.
- (3) Bean Bag Landing Lights.
- (4) Survival Type Strobe Light.

In preparing the ambush site, the bean bag lights are placed in small holes around the ambush perimeter and are turned on by selected men when ordered to do so.

The compass, radio and strobe light are with the troop commander in a central location. In the event of attack, the perimeter is lighted and can be seen only from the air. The troop commander identifies his position with the strobe and directs the gunships' fires by range and azimuth from the strobe light.

d. The Air Cavalry Squadron has not conducted a full squadron size operation utilizing all its organic assets in a squadron commanded and controlled operation in the IV CTZ. Mission assignments from Corps have not been aligned toward a squadron mission, but rather as a separate troop operation under OPCON status to a supported unit. The magnitude of the cavalry type missions within IV CTZ are such that greater area type coverage can be attained through separate troop deployments.

2.10 Special Operations.

a. Air Boat.

Combined with the air cavalry troop employment within the two sectors of the 44th STZ, reconnaissance operations are further enhanced during the wet season by the use of Special Forces airboats. Utilization of these airboats depends entirely on the water level within the rice paddies. The terrain of the 44th STZ favors the use of the boats in conjunction with the air cavalry troop. Boat operations encompass search operations, blocking force operations and screening operations. They can be utilized to exploit situations developed by the air cavalry troop and also to increase ground fire support to the air cavalry troop. Major problem areas associated with the utilization of these boats are logistics and communications. The airboats have a maximum fuel planning range of four hours which restricts their radius of operation. Fuel must be prestocked at various areas for sustained use of these boats in daily operations. Continuous air cover is essential to accompany the boats and vecto them over negotiable terrain. This prevents the boats from beaching (running high and dry) on rice paddy areas or high dikes. A communications problem is ever present with the air boat because of the high noise level of the boat motor and propeller. The boat operator must wear earphones to maintain FM communication. Prior to transmitting, the speed of the boat must be reduced to eliminate interference caused by background engine noises.

b. Counterinsurgency Operations.

The air cavalry troop has been very effectively employed throughout the IV CTZ to conduct specialized missions such as raids on known tax collection points, prisoner of war camps, ammunition and food cache sites and seizure of VC infrastructure personnel. The cavalry is ideally suited to perform missions of this nature where speed, timing, surprise and violent execution are paramount to success.

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SECTION II WEATHER and TERRAIN

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SECTION IV MATERIEL

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PART THREE

EVALUATION

SECTION ONE OPERATIONAL RESULTS

3.1 Statistical Summary

This summary data is based on the two organic air cavalry troops presently with the air cavalry squadron. It is computed utilizing 60 troop days of commitment per month. The cutoff for this summary is established at 15 Oct 68.

a. Operation Blackhawk---Daylight Operations

<u>Period</u>	<u>Trp Days Committed</u>	<u>Hours Flown</u>	<u>Sorties</u>	<u>KBA</u>	<u>Results</u>
Jun	27	1713	2732	75	138 structures 72 sampans
Jul	41	2269	3175	65	89 structures 155 sampans
Aug	34	2842	3086	77	170 structures 101 sampans
Sep	38	1920	3030	164	284 structures 327 sampans
Oct (1-15)	21	1149	2039	68	44 structures 41 sampans
TOTAL	161	9893	14062	449	725 structures 696 sampans

* Structures include bunkers and houses

b. Operation Blackhawk---Night Operation

<u>Period</u>	<u>Trp Days Committed</u>	<u>Hours Flown</u>	<u>Sorties</u>	<u>KBA</u>	<u>Results</u>
Jun	8	18	20	*Unk	Unk
Jul	19	44	38	Unk	Unk
Aug	20	49	48	Unk	2 sampans
Sep	11	25	33	21	11 structures 1 sampan
Oct (1-15)	5	28	41	8	13 Structures
TOTAL	63	164	180	29	24 structures 3 sampans

* Unknown KBA and results caused by night restrictions with no ground forces committed to tally results of AH-1G strikes.

c. Divisional Operations

<u>Month</u>	<u>Trp Day Committed</u>	<u>Hours Flown</u>	<u>Sorties</u>	<u>KBA</u>	<u>Results</u>
Jun	15	403	933	53	79 structures 56 sampans
Jul	9	275	349	52	43 structures 32 sampans
Aug	16	467	799	131	120 structures 22 sampans
Sep	14	664	911	104	63 structures 26 sampans
Oct (15)	7	372	590	124	32 structures 20 sampans
TOTALS	61	2181	3582	464	337 structures 156 sampans

d. Operation Blackhawk vs. Divisional Operations

	<u>Days Committed</u>	<u>Hours Flown</u>	<u>Sorties</u>	<u>KBA</u>	<u>Results</u>
Blackhawk*	161	9893	14062	449	725 structures 696 sampans
Division	61	2181	3582	464	337 structures 156 sampans

* This summary does not include the large cache sites and equipment captured on three occasions during the conduct of Operation Blackhawk.

SECTION II WEATHER AND TERRAIN

3.2 Effects of Weather

a. The weather conditions within the IV CTZ during the wet season affect the reconnaissance effort of the air cavalry squadron primarily by imposing restrictions on the equipment.

(1) During the period that the ground cavalry troop has been employed in the IV CTZ, the Delta region has been under the influence of the Southwest monsoon. The most significant effect of weather on the cavalry troop operations occurs when heavy rainfall causes variations in terrain characteristics. A normally trafficable dirt road can be rendered impassable to the troops' wheeled vehicles in a relatively short period of time during heavy rain storms, some of which reach flash flood proportions. Some conditions of reduced visibility have been encountered but are not considered significant because they are usually of short duration and normally occur late in the evening and early morning.

(2) The air cavalry troop is only slightly affected by the wet season conditions in the IV CTZ. Aircraft visibility and air movement is slightly restrictive in nature, but most weather buildups can be circumnavigated. Low clouds and heavy rain cause reduced visibility thereby forcing the air cavalry troop to fly lower while conducting the operation. This poses the greatest problem and increases aircraft vulnerability to enemy fire. On some occasions the visibility limits the pilots capability to acquire the target visually. This occurs primarily with the aero-scout LOHs, especially in rain where the moisture forms a fog on the cockpit plexiglass forcing the pilot to fly with visual reference to the ground by observing out the side doors.

(3) The air cavalry squadron's communication capability is adversely affected by weather interference. The distance from the base camp to the operational area is critical with voice communication. Poor weather significantly decreases the range for voice communications thereby reducing command and control from Squadron level.

b. Overall weather conditions in the IV CTZ have assisted the air cavalry troops in the conduct of area reconnaissance since weather has an adverse impact on the enemy's techniques of cover and concealment. It has forced the enemy to use extensive sampan traffic thus allowing the reconnaissance teams of the air cavalry troop to readily identify these sampans in the open rice paddies and canals. Enemy storage and supply points for food, weapons, ammunitions and medical supplies are forced to higher ground because of the rainfall and the increase in the water table. Elevated platforms are being used more extensively and are easily located by air elements due to the height above the ground and the use of new vegetation for concealment. Many areas can be eliminated as possible cache sites due to flooded conditions which allow the reconnaissance effort to be concentrated on areas high and dry above the wet season water table.

3.3 Statistical Summary on the Effect of Weather

<u>Month</u>	<u>Trp Days Committed</u>	<u>Days Lost</u>	<u>Trp Nights Committed</u>	<u>Nights Lost</u>
Jun	42	1	5	3
Jul	50	1	17	2
Aug	50	2	17	3
Sep	52	0	11	5
Oct (1-15)	28	0	5	2
TOTALS	222	4	55	15

3.4 Effects of Terrain

a. The terrain of the IV CTZ has not significantly affected the air cavalry squadron operation except for the cavalry troop ground movement capability.

b. The air cavalry troop is only affected by terrain during the wet season when it commits the organic aero-rifle platoon. The water level is usually knee-to-hip high for a typical US infantryman and seriously slows the aggressive forward movement of these soldiers thus increasing the time required to perform the reconnaissance mission.

c. The employment of the ground cavalry troop on mounted reconnaissance and security missions is severely limited by the terrain in the Delta region where the inland waterways, canals and rice paddies present many insurmountable obstacles. The TO&E of the cavalry troop, which consists of wheeled vehicles, is not conducive to employment in the Delta other than on the road networks which are extremely limited. The cross-country mobility of the troop is almost as limited in the dry season as it is in the wet season. The canals and rivers are constant obstacles no matter what the season and the rice paddy dikes are almost as effective as well-placed road blocks. The troop has been employed to provide perimeter security for fixed installations and artillery fire support bases in addition to escorting convoys and route security. These missions have all been performed in a very satisfactory manner; however, the primary mission of reconnaissance has seldom been assigned to the troop due to the inherent limitations of the TO&E vehicles as applied to the Delta geography.

SECTION III FACTORS AFFECTING EMPLOYMENT

3.5 Reconnaissance by Fire

a. Reconnaissance by fire is an expeditious method of reconnaissance employed by air or ground cavalry. The air cavalry squadron uses this means to conduct reconnaissance quickly, evaluate the situation and continue the assigned mission.

b. Within the IV CTZ the technique of reconnaissance by fire is not employed except in specific, predesignated strike zones in given areas of operation. These areas are specified by the Vietnamese commanders responsible for the area. Outside these areas the rules of engagement are explicitly applied and do limit the air cavalry's use of reconnaissance by fire techniques. Restricting reconnaissance by fire within the IV CTZ is essential because of the population density in all areas including pacified and contested zones.

3.6 Availability of Fire Support

a. In support of division operations, artillery is available through the division but not in direct support of the cavalry. Available fire support such as artillery, mortars and tactical air is used directly by the ARVN divisions in support of their respective operations and the air cavalry troop working with these units must request artillery fires from the supported unit. This system has proven to be ineffective due to the excessive time involved in coordinating the mission and getting fire on a target.

b. Operations conducted by the air cavalry squadron in the 44th STZ normally do not receive artillery fire support. Some artillery support covers a small portion of the zone; however, the range of these Vietnamese artillery pieces do not carry out into the border areas of operation where the air cavalry troop operates. In most cases, when artillery is requested in direct support of the cavalry operation on a specific target, the time involved in obtaining this artillery through Vietnamese channels allows the target to move out of the area, or permission to fire is sometimes denied. Consequently, the air cavalry troop engages the target with organic aerial weapons. Throughout the 44th STZ the artillery pieces are established in secure fixed positions and are used mostly as defensive rather than offensive weapons.

c. Artillery forward observers are not available to the squadron troops on operations conducted within the IV CTZ. The squadron has the organic capability of adjusting artillery utilizing the aero-scout observer and pilot. When artillery fires are used in conjunction with the air cavalry operations, the aero-scout platoon personnel of each air cavalry troop adjust fires on the desired targets in the absence of an airborne forward observer.

d. Tactical air support is utilized to destroy targets beyond the capability of organic air weapons. An Air Force Air-Liaison team is placed in support of the air cavalry squadron to coordinate and direct the employment of TAC air by the squadron and its organic elements. The capabilities of the ALO are limited by the absence of an assigned O-1. Squadron TAC air is controlled by the provincial Forward Air Controllers (FAC) in the areas where a troop or squadron is employed. Preplanned air strikes are utilized by the squadron against known targets acquired from previous intelligence and reconnaissance. Immediate air strikes and troops-in-contact strikes are the most commonly used when TAC air is available to the squadron. Usually TAC air is readily available for preplanned division operations; however, when operating with the 44th STZ it is very rarely available in support of a cavalry mission.

3.7 Utilization of the Squadron ALO/FAC Team

a. Squadron employment within the 44th STZ requires the squadron USAF air liaison and forward air control team (ALO/FAC) to coordinate closely with the separate sector ALO/FAC's to insure adequate air support for the air cavalry squadron throughout the entire zone. The difficulty in communications within the area when coordinating with these sectors is paramount and may involve all of these sectors as the air cavalry troops execute the reconnaissance mission. It is necessary for the ALO/FAC to be familiar with all the sectors in which the air cavalry troops operate.

b. In the event that an air cavalry troop plans on deploying its ground forces, it is imperative that the FAC be airborne, particularly prior to and during the insertion and extraction to render any TAC air support needed. TAC air support should be available to the air cavalry to allow adequate support through the ALO/FAC when needed. The air cavalry squadron uses preplanned airstrikes only in an offensive operation involving a prestrike of a landing zone. Immediate airstrikes are used by the squadron on a continuous basis to attack targets of opportunity. The ALO/FAC attached to the squadron cannot coordinate or control airstrikes in the 44th STZ in support of the air cavalry squadron effort with the present mission requirements. The ALO/FAC cannot be in two locations (with two troops) at the same time.

3.8 Fixed Installations

a. The employment of the air cavalry squadron and its troops is affected but not over adversely by the establishment of fixed installations. The troop units, except for the cavalry troop, normally return to the base camp daily for security and maintenance reasons. The lack of aircraft revetments at field sites imposes a hazard to the air cavalry troop remaining overnight at an insecure forward area. This concept, presently dictating the daily return of the air cavalry troops to that base camp, alters some facets of the role of air cavalry. Organization of the squadron for combat, utilizing troop trains and field trains, forward area command posts and rear area base camps is not fully

exercised because of the terrain and the mission. Troop maintenance of aircraft fixed at the base camp results in higher overall aircraft availability due to the facilities available and the close supervision and support of squadron-level maintenance. Hence any time disadvantage in returning to base camp daily is offset by the higher productivity of the maintenance and support activities.

b. The communication capability of the squadron from a command and control posture decreases somewhat with fixed installation operations. Permanent communication systems are established, thus reducing the high mobility feature of the cavalry squadron. With the aircraft speed, time distance factors are reduced and the problem is minimized.

3.9 Logistical Support

a. Based on the permanent installation configuration of the squadron, except for some extended field operations by the cavalry troop, logistical support has been dictated by guidelines established within the IV CTZ. Class I supplies are geared to a defined ration breakdown, thus limiting the squadron to pre-planned rations issue and consolidation of messes. The logistical system itself has limited flexibility for squadron deployment away from its base camp on immediate missions. This situation presents numerous problems since garrison type rations are issued 3 days in advance and cannot be immediately exchanged for field rations. This problem however is not peculiar to IV CTZ. Troop mess teams are pooled to operate a consolidated squadron mess and no requirement exists to break out the mess teams to individual troops except for the cavalry troop on preplanned separate operations. Troop employment based on weekly operational guidance allows for proper coordination of logistical support. Changes to this preplanned forecast do disrupt logistical support planning.

b. If the squadron were to deploy on an extended operation, it would require additional logistical support to perform sustained operations. Air cavalry troop aircraft cannot be continuously used to accomplish resupply and administrative missions. Corps aviation assets must necessarily be made available to the squadron on a mission request to support logistical requirements, however these assets are extremely limited. The CH-47's in support of IV Corps are heavily committed and cannot be made readily available on a mission request to support the squadron as needed. The lack of aerial logistical support in the IV CTZ forces the air cavalry squadron to consolidate requests from each troop and then obtain the needed supplies utilizing its own organic aircraft. The 164th CAG can provide only limited outside aviation support to the squadron because all assets are centrally controlled on daily commitments by the IV CTZ with little remaining to support the aviation battalions or the air cavalry squadron in logistical resupply and consolidation of supplies for pick-up.

3.10 Employment of the Air Cavalry Troop Aero-Rifle Platoon

a. The aero-rifle platoon in the air cavalry troop is not committed within the IV CTZ as doctrine recommends because of its relative size and the lack of immediate ARVN reaction forces and air mobile assets to support the insertion and lend assistance. The insertion of an aero-rifle platoon in many areas of IV CTZ could result in annihilation of the entire platoon if immediate mobile reaction forces were not available to combat the opposing forces. Within the 44th STZ where the mobility for the reaction force is not readily available, the committed aero-rifle platoon would have to fight a delaying action due to the extended period of time required to get the airmobile reaction force on the scene.

b. The air cavalry troop working with the ARVN divisions has an ARVN reaction force, but it is seldom committed because the divisions continue with their preplanned operation and do not always have the flexibility to exploit the findings of the cavalry reconnaissance. This has happened on numerous divisional operations supported by cavalry assets; therefore the air cavalry troop does not commit its organic aero-rifle platoon to establish contact if follow-up action cannot be assured. Failure to exploit these findings sometimes results in the loss of significant VC kills and limits the effectiveness of the reconnaissance mission.

3.11 Exploitation and Squadron Reaction

a. Based on the present concept of commitment of the squadron assets by air cavalry troop in the IV CTZ areas of operation, the squadron does lose some capability of consolidation of aircraft, weapons and infantry platoons under squadron control. This technique of organization for combat is employed by the squadron to accomplish its broad mission and tailor the troops to meet the situation without additional ARVN support.

b. The cavalry troop has the capability of being employed as the squadron's airmobile reserve in a dismounted role to complement the capabilities of the air cavalry rifle platoons when the squadron is employed as an entity. This technique of employment has not been utilized in the IV CTZ primarily because the limited lift capability of the squadron cannot be massed under the concept of independent operations in widely separated areas of operation. This situation as it present exists, deprives the squadron commander of the capability to employ the cavalry troop as an airmobile reserve to assist the rifle platoons in developing significant targets or to exploit a target developed by an air cavalry troop rifle platoon.

c. The cavalry troop can be employed as a mounted force or in the dismount role based on mission requirements. The versatility of this unit provides the squadron with tremendous flexibility in organizing for combat. The cavalry tro has been employed on many occasions to supplement and complement the capabilities of the air cavalry troop rifle platoons.

3.12 Employment of Independent Fire Teams

a. Fire teams of the air cavalry troop should not be scrambled to assist units in contact like the organic weapons platoon of an airmobile company. This detachment results in an air cavalry troop lessening its capability to conduct visual reconnaissance (VR) covered by organic support.

b. The air cavalry troop and squadron is a self sufficient unit and employ the scouts and weapons simultaneously to conduct the primary mission of VR. When a fire team is dispatched by a unit to assist another element in contact the capability of the air cav troop to conduct sustained visual reconnaissance is inhibited. Scout LOH's cannot adequately VR at tree top level and develop a situation without organic fire teams at altitude working as a combined arms team and covering force.

3.13 Communications

a. Air Cavalry troop communications

(1) In order for the Air Cavalry Troop to perform its mission capitalizing upon its capabilities and characteristics to the maximum, it is necessary for the troop to maintain absolute control over its elements. It is necessary that the following radios be maintained for command and control on missions within the IV CTZ.

- (a) FM Ground Command Frequency.
- (b) UHF, FM: - Troop Command Frequency.
- (c) VHF, FM: - Troop Platoon Frequency.
- (d) Additional UHF - The troop CO will designate at least one helicopter to monitor the air mission commander (AMC) UHF frequency when the troop is working in conjunction with airmobile operations.

(2) The troop base camp maintains FM Squadron Command communications and relays to squadron any intelligence spot reports or situation reports.

b. Squadron Radio Nets:

- (1) The Air Cavalry Squadron operates FM and AM radios for communications within its organization. The radio nets employed at squadron level are:
 - (a) Squadron Command Net: FM
 - (b) Squadron Command Net: AM to troops operating away from base camp.
 - (c) Squadron intelligence/operation Net: FM
- (2) The squadron being based at a fixed locality with installation posture does not exercise its squadron administrative/logistical net FM. Installation telephones serve this purpose. The radios designated for this net augment air cavalry squadron S2/3 tactical operation center (TOC) to maintain its communication capability.

c. Nets to higher headquarters: The air cavalry squadron is authorized FM, AM, HF and radio teletype (RTT) radios for communication with the higher headquarters, the 164th Avn Gp. All radio systems are available to provide adequate communication with the 164th Aviation Group on a standby or as required basis.

d. Special Purpose Nets: Tactical air direction net UHF. The squadron ALO/FAC is equipped with two vehicular mounted UHF, ground-to-air radio sets which enable him to operate in the tactical air direction net. Presently these two sets are not being utilized because the air cavalry troops operate a great distance from the base camp. Road trafficability is poor to these areas and security is poor unless guarded by squadron assets. The ALO/FAC cannot operate this net from the squadron's base location and direct TAC air into air cavalry areas of operation.

3.14 Intelligence Collection

a. Accurate intelligence collection and dissemination within the IV CTZ is critical to successful employment of the air cavalry squadron. Troop employment on a daily basis to either the 44th STZ or to one of the three ARVN divisions requires an accurate updated intelligence collection effort of the pertinent areas of operation. Because of the great dispersal of areas covered, the squadron intelligence staff must rely heavily on the 164th Aviation Group S-2 and IV Corps Advisory Team G2 for updated information about an area of operation for the troops committed. The IV CTZ advisory staff consolidates intelligence but does not disseminate the information to the supported troop for a specific

operation. Intelligence annexes to routine operation orders are a rare item of issue in the IV CTZ however the information can and is made available on request. The principal reason for this is the large advisory role of US personnel in IV CTZ.

b. Intelligence briefings to a committed troop are essential to prepare the troop for its employment into the area of operation. The lack of intelligence information to the squadron may require the committed elements to spend extra hours performing reconnaissance in detail. Prior knowledge of the intelligence in the area of operation provides for a greater concentration of aerial reconnaissance in key locations and the scout team is fully aware of what to expect and what to look for.

c. In their OPCON status, the air cavalry troops relay all the intelligence information to the supported unit thus the collection effort lies within the supported unit. Squadron intelligence collection is limited in attempting to plan an operation for the squadron since intelligence gathering must frequently be accomplished prior to each operation. Current background information is not always available within the Squadron and it is frequently outdated based on intsums 24-36 hours old.

d. The air cavalry squadron has the organic capability to react to intelligence information immediately. Reaction to intelligence information passed through numerous channels results in time consumption and old information once it reaches the user. This results in a fruitless attempt to react days later.

3.15 Reconnaissance Altitudes

a. The IV Corps Tactical Zone topography allows the air cavalry squadron to utilize nap-of-the-earth flight techniques to better its reconnaissance effort. Employment of the aero-scout and aero-weapons teams enables the air cavalry to obtain better reconnaissance and specific area coverage by employing the scout team LOH's flying at low altitudes over the area. A high recon is first made from 500' and then the scout team flies low and at a slower airspeed to conduct a detailed reconnaissance of the area. Nap-of-the earth flight provides the element of surprise and offers some concealment. This technique gives the LOH the capability of accurately marking the targets for the weapons team in support.

b. The AH-1G utilized properly is not designed as a reconnaissance vehicle. Established as a supporting weapon for the scout team, it has been found that the most effective altitude is 1500' and a minimum altitude of 500' for termination of target engagement. The low level gunship tactics long associated with the UH-1C are not totally compatible with the AH-1G since it is totally exposed from the rear and does not have the advantage of covering door gun fire. Further, the closed cockpit makes detection of ground fire impossible, unless hit. The supporting role of the AH-1G requires it to be in continuous visual contact and at an altitude which will provide immediate and responsive close fire support for the scouts.

3.16 Operational Planning

a. The ARVN elements in IV CTZ plan most tactical operations involving the 164th Aviation Group aviation assets as airmobile combat assault operations. Planning of these operations usually takes place three to seven days in advance of the preplanned operation in order to obtain IV Corps approval and allocation

of aviation resources. The 164th Aviation Group supplies all aviation support to Corps and IV Corps allocates the aviation assets by lift and fire support elements to support the ground scheme of maneuver. Usually, the air cavalry support is allocated by air cavalry troop. The troop is placed under operational control of the requesting unit for the conduct of the operation. The operation normally entails an airmobile insertion into a preselected LZ and a search and destroy operation of the area concluding with an airmobile extraction before dark. The cavalry unit is usually tasked to perform area reconnaissance for the operation, and the airmobile insertion may be adjusting in chronology or location based on the findings of the aircavalry. The preplanned operations conducted in IV CTZ have limited flexibility to react to an enemy sighting by the squadron in areas other than the planned operational area and the ability to react and adjust is a function of the particular ARVN unit/commander being supported. While some have demonstrated great flexibility, others are somewhat reluctant to depart from established schedules and locations.

b. The mission forecast for cavalry support is issued by a weekly operational guidance order published by the 164th Aviation Group. Changes in this operational guidance are frequently based upon intelligence and an extremely fluid tactical situation. Consequently, air cavalry troops may be required to plan their missions based on a Liaison visit the night before the scheduled operation. When the supported unit changes, a hasty Liaison visit is required to coordinate the support requested and the turbulence from these mission changes may affect proper mission and logistical support planning. The key in such situations is that the squadron has the inherent flexibility to divert its assets on a moments notice and remains totally mission oriented.

3.17 Unit Integrity

a. The air cavalry squadron's aerial reconnaissance capability has been reduced by 1/3 with the attachment of one air cavalry troop to a sister squadron.

b. Operation Blackhawk in the 44th STZ would be enhanced immeasurably if backed by continuous squadron support utilizing all three air cavalry troops on a rotational reconnaissance effort, supported by the cavalry troop as a reaction force. This would allow the squadron to operate as an entity with a unified mission exercising all of its organic assets in a squadron role. The mission assignment would be to the squadron proper under operational control of the 44th STZ. The additional air cavalry troop would provide the flexibility and combat power necessary to interdict the entire zone on a sustained basis.

c. The combined arms capability of the entire squadron would apply tremendous pressure on the VC in IV CTZ. The potential full squadron size employment can only be gaged by reviewing the tactics and techniques of employment of the 1/9 Air Cavalry Squadron in support of a division.

SECTION IV MATERIEL

3.18 Aircraft

a. The present assigned aircraft in the squadron meet the requirement to adequately conduct the mission. Employment of the air cavalry squadron by troop assignment does decrease the over-all availability of the squadron aircraft. This is counteracted by deploying the squadrons with two scout teams each. The commitment of troop aircraft on a daily basis as a tailored force using 4 LOH's, 4 UH-1H, 1 C&C, and 4 AH-1G's assists the maintenance program and results in a sustained availability of these mission-ready aircraft per air cavalry troop.

b. The light observation helicopter OH-6A is the ideal helicopter to perform reconnaissance. The speed capability and fuel range combined with the excellent observation characteristics enable the crew to perform detailed continuous surveillance. The employment of the OH-6A in teams provide residual security for each aircraft and a redundant coverage in the reconnaissance mission. The LOH is limited during reduced visibility conditions by the configuration of the cockpit since rain distorts visibility through the bubble and fogging caused by condensation results in a loss of visual reference to the ground. The LOH is not considered adequate for IFR operations because of the relative unreliability of the flight instruments. Night operations with the LOH are somewhat restrictive because of the instrument deficiency coupled with the absence of a night time visible horizon in the Delta during the wet season.

c. The AH-1G helicopter provides excellent aerial weapons support to the air cavalry. The helicopter, however, is not a reconnaissance vehicle and cannot be expected to perform reconnaissance from its most effective altitude of employment. The AH-1G is most vulnerable to ground fire from the rear and flanks at low altitudes. Employment of this helicopter as a team member with the OH-6A makes a most effective combination capable of neutralizing targets of opportunity. Limitations of the AH-1G are not confined to its vulnerability to ground fire, but also to the instrumentation of the aircraft. The inaccuracy of the attitude indicator and the vertical speed indicator limit the helicopter during night flight. On a target strike at high airspeed and low altitude, the AH-1G has a tendency to settle with power on pullout from a dive. Response to flight control at a low altitude is slow and pilot technique must be stressed to combat this feature of the aircraft.

d. The UH-1H helicopter performs its mission of air transport in a most satisfactory manner. The increased horse power, lift capability and refinements over the UH-1A, B and D models enables the UH-1H to perform under all conditions in the Delta.

e. The UH-1C command and control helicopter has only recently been replaced by the UH-1H in the Air Cavalry squadron. The UH-1C was an ideal vehicle for the commander's command and control aircraft and had the maneuverability and armament desired by the commander to exercise command and control and influence the action when needed. The UH-1C complemented the weapons platoon AH-1G with increased firepower, but lacks the airspeed inherent to the AH-1G. The relative impact of replacing the UH-1C cannot be addressed at this time because the experience base is not yet adequate to draw firm and defensible conclusions.

3.19 Aircraft Weapons Systems

a. The OH-6A weapons system XM 27 E1 is very effective against targets of opportunity; however, due to jamming and ammunition expenditure there are times when the weapons system becomes unusable. The gross weight of the LOH with its crew and the XM 27 system w/ammunition does not allow the utilization of a crew chief/gunner to increase the fire power of the aircraft. The additional person can be carried if the XM 27 ammunition is reduced by 50 per cent and fuel reduced by 100 pounds, however such a configuration renders the LOH very critical or flight maneuvers and reduces the overall combat effectiveness of the helicopter. A critical factor to be considered when a crew chief/gunner is carried on the LOH is the problem created in evacuation of a downed OH-6A crew. The OH-6A wing ship in a team can successfully evacuate a two man crew and the weapons system of its teammate aircraft under emergency situations. This can be done safely

and it can sustain flight for a short distance to a secure area. The best solution to date for increased armament for the OH-6A is the observer's use of a CAR-15. This weapon with additional magazines of ammunitions provides a very effective augmentation to supplement the XM 27 El system.

b. None of the weapons systems utilized are affected by the wet season in the IV CTZ. The 2.75 w/17 lbs warhead has proven very effective against targets in the Delta since the increase of the water table reduce the effects of the ammunition. The introduction of the VT fuze however has overcome the reduced lethality problem of the point detonating fuze in flooded areas.

c. The 40mm M-5 system is one of the most effective single weapons system in the Delta during the wet season. Its characteristics of area coverage are not changed with the increased water table. The air cavalry squadron no longer has M-5 systems available since these systems were turned in with the UH-1C model helicopters. The loss of this weapon leaves the squadron without an intermediate range weapon. XM-28 weapons systems have been requested for the AH-1G's of the squadron to restore the intermediate range weapons capability to each air cavalry troop.

3.20 Vehicles

The TO&E vehicles of the cavalry troop are not compatible with the terrain in the Delta. The 106mm recoilless rifle vehicles are extremely vulnerable to soft ground and for the most part are entirely road bound. The non-availability of TO&E winches on the 3/4 ton trucks of the troop further complicates the trafficability problem since a TO&E recovery vehicle is not authorized.

3.21 Ground Weapons

The weapons of the cavalry troop are well suited to the Delta environment with an adequate distribution of long and short range weapons. The 106mm recoilless rifle is an extremely effective weapon in providing perimeter security and in the counter-ambush role using beehive ammunition.

PART 4

CONCLUSIONS

SECTION I GENERAL

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- 4.2 Reconnaissance by Fi
- 4.3 Unit Integrity
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- 4.5 Wheel Vehicles
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SECTION II SUMMATION

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PART 4

CONCLUSIONS

SECTION I. GENERAL

4.1 Weather

Air cavalry squadron operations in the IV CTZ are affected only slightly by the predominant weather conditions during the wet season. The weather has not altered appreciably the employment or role of air cavalry during the monsoon season in the Delta.

4.2 Reconnaissance by Fire

The population density in the IV CTZ restricts the technique of reconnaissance by fire by the air and ground cavalry except in specified strike zones. The rules of engagement when applied to the combat reconnaissance missions conducted by the air cavalry squadron dictate that visual reconnaissance be utilized in preference to reconnaissance by fire.

4.3 Unit Integrity

a. Squadron missions are presently made up of troop sized operations based on Corps directed commitments. Due to the magnitude of mission assignments and great demand for air cavalry by units in the IV CTZ, the squadron must be employed by troop size commitments hence the principal command and control headquarters is denied the capability to perform a specific mission and unit integrity is split.

b. To perform reconnaissance missions, doctrine states that the air cavalry is not fragmented, but is employed as a unit with air elements and ground elements in close conjunction so that their respective capabilities are fully exploited and complementary. In the Delta, the basic air cavalry unit by necessity becomes the troop because of extensive commitments. Mission type orders are currently issued to the squadron by higher headquarters and the squadron then analyzes the requirement and issues orders to subordinate troops for execution. This allows the staff to function and detail the mission to the best suited element of the squadron, thus exercising the staff and consequently the entire chain of command. Operations orders and staff planning is limited when late mission changes occur and necessitate the use of "Frag" type orders as opposed to complete operations orders.

4.4 Route Reconnaissance

The doctrine for the conduct of route reconnaissance missions in the Delta has not changed from published doctrine on cavalry employment. The limiting factor in the performance of this mission is the non-trafficability of the terrain on the flanks of the roadbed. This deficiency is overcome partially by the use of air cover on the flanks.

4.5 Wheel Vehicles

The ground cavalry troop is not capable of performing its primary mission of ground reconnaissance due to the limitations of its organic wheeled vehicles in the Delta terrain. The TQ&E under which this troop was organized was prepared based on the airmobile concept of all vehicles being air transportable. Under the present concept of air cavalry employment in the Delta, the requirement for the cavalry troop to retain an air transportable configuration is not mandatory. A requirement does exist for the cavalry troop to conduct continued mounted reconnaissance operations throughout IV CTZ.

4.6 US Air Force Support

The ALO/FAC's capabilities for providing support to the squadron would be greatly enhanced if an O-1 type aircraft were available for the control of immediate TAC air support to the squadron or individual troops. His ground vehicles serve such a purpose in a conventional environment, but not in an airmobile situation where the equipment is unsuited for the terrain and cannot keep pace with a fast moving situation. The physical security measures required if the ground vehicles were deployed with the air cavalry would be prohibitive.

4.7 Reduced Capability

a. Due to normal attrition, infusion, and combat losses the aero-rifle platoons of the air cavalry troops at the present time are at reduced strength. Because of their limited strength, almost any reduction without an immediate fill severely limits the capability of each air cavalry troop and the squadron to perform the ground mission. An urgent requirement exists to keep these platoons at proper strength with qualified personnel or attach the platoons to the cavalry troop to provide a squadron reaction force.

b. The detached air cavalry troop, "B" Troop, is needed to increase and complement the squadron's capabilities to conduct sustained operations within the 44th STZ of the IV CTZ. As presently tasked, the squadron covers the border area with two troops, but when special missions arise elsewhere in IV Corps, one troop is diverted and one half the border is uncovered. The third troop would eliminate this void.

c. The installation posture inherent to the Delta region caused by the expanse of the terrain and security requirements creates a loss in squadron flexibility and mobility. Sustained operations away from the base camp can only be conducted by the cavalry troop of the air cavalry squadron. The air cavalry troops are limited in staying power away from base camp because of maintenance and supply limitations.

4.8 National Police Assistance

Utilization of the Vietnamese National Police to assist US units in dismounted sweeps throughout the IV CTZ has greatly increased the unit's combat effectiveness.

4.9 Team Employment

Frequently in emergency situations, the air cavalry troop, by virtue of their vast amount of fire power, is used in a protective or fire support role rather than on reconnaissance type missions. The troop is organized and equipped to operate as a unit, consisting of teams composed of aero-scout, aero-rifle and aero-weapons. The capabilities and characteristics of these elements are designed to complement each other and the loss of one of these capabilities restricts the ability of the unit to perform the assigned mission. Once the aero-rifle platoon is committed and inserted, the troop is fully committed and cannot be expected to accomplish any additional missions away from the inserted element. Because of a lack of artillery support and limited tactical air support in some Delta areas, cavalry fire support is frequently the most responsive to emergency situations in border areas. Only then is diversion justified.

4.10 Reaction Forces

Reaction forces in support of the air cavalry squadron must be made available with an airmobile lift capability to react to the air cavalry troop or squadron findings. This point has been brought out as the key to the effective employment of air cavalry in the Delta. ARVN division operations are beginning to respond to exploitations of cavalry contacts and deviate from earlier and more outmoded preplanned airmobile concepts.

4.11 Detached Aircraft

Authorized aircraft of the squadron cannot be detached from the squadron without adversely affecting the mission of the troops. The detachment of assets from an assault helicopter company will not seriously impact upon its capability to sustain operations as it would an air cavalry troop. This reduces the squadron commander's capability and flexibility in having available assets to meet the many situations requiring rapid reaction.

4.12 Logistical Support

Corps aviation assets should be made available to the air cavalry squadron for logistical support, otherwise the squadron must use combat elements to make a squadron consolidated supply pick up at depot areas outside the IV CTZ.

SECTION II SUMMATION

4.13 Employment Concept

a. The air cavalry squadron has been employed in the IV CTZ for a period of approximately six months and the concept of employment per se does not differ greatly from established doctrine and utilization throughout Vietnam. The principal factor which affects this employment is the great demand for air cavalry support which then dictates that the squadron be fragmented into troop size commitments. This practice of fragmenting the squadron's assets decentralizes command and control

and actually makes the squadron headquarters function more difficult and demanding because more situations must be monitored and developed as more missions are accomplished. The other principal variant of cavalry operations in the Delta is the command relationship between the air cavalry and the Vietnamese ground elements. Since the US forces are not in command but in an advisory role, full cooperation and combat effectiveness cannot be attained unless a mutual rapport and respect is established between the two forces. Such is the case with the cavalry and they are held in highest esteem by all units with whom they have worked.

b. The very nature of the enemy in the Delta demands aggressive reconnaissance on the part of the air cavalry squadron. The enemy in the Delta are principally guerillas, both main force and local force, using insurgency tactics of sabotage and terroism, seldom massing to fight. Since the enemy is highly elusive, aggressive reconnaissance eventually leads to enemy contact and a fight. The cavalry maintains this contact while infantry troops are lifted into the battle area to assume control of the situation. These supporting troops can be lifted in using squadron lift aircraft or airmobile assets from an aviation battalion. An air cavalry troop can and has performed missions of this nature as an independent unit; however, the operational hazards peculiar to IV CTZ are numerous due to the tactical posture and geographical disposition of the ARVN combat and combat-support units. There are numerous areas throughout IV CTZ, specifically in the 44th STZ, which cannot be supported by artillery fire. This situation, coupled with the fact that other squadron elements are not immediately and continuously available for support, causes a reluctance on the part of the troop commander to insert his rifle platoon to investigate suspect areas which cannot be adequately reconnoitered from the air. The insertion of the rifle platoon is essential on many occasions to ensure that the enemy is not overlooked in heavily vegetated or forested areas. Prior to inserting the rifle platoon, the troop commander must insure that supporting forces are available to protect the platoon and to exploit any contact made by the platoon. The time required to insert an ARVN reaction force at the point of contact reduces somewhat the effectiveness of an air cavalry troop. Because of extensive daily operations, the available lift assets in IV CTZ are committed continuously in support of ARVN operations and are not immediately available to lift a reaction force into an area where contact has been gained by the cavalry troops. The normal and most expeditious technique presently available is to divert lift ships to support a reaction force mission. This system is not totally responsive to support an air cavalry troop due to the time delay involved in effecting the necessary coordination between ARVN units for aircraft diversion. The lift aircraft of the air cavalry troop can be used, but the reinforcement is extremely slow utilizing limited lift assets.

c. For the most part, all of these problems will be eliminated as ARVN forces develop more experience with the air cavalry. The lack of artillery support will be overcome by employing additional gunships from squadron resources as required and reinforcing with armed helicopters from airmobile units. The reaction force could be employed using the combined squadron lift capability until the diverted lift assets arrive. Once the reaction force is on the ground and has assumed control of the battle, the cavalry squadron can extract its organic rifle platoon or platoons, if they have been inserted, and the procedure is repeated

in another area. Gunships in general support of the Corps remain with the engaged battalion or battalions to provide close fire support. It is entirely feasible under this concept that the squadron can develop far more contacts than the divisions can handle. Many of the present contacts are with small enemy units of squad and platoon size and not considered significant; but if a reaction force is committed on each contact, the results of operations should be far superior to the results achieved in a like period of time using conventional "search and destroy" tactics.

PART 5

RECOMMENDATIONS

SECTION I: EMPLOYMENT

5.1 Employment in the Delta

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5.3 Utilization of the ALO/FAC Team

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SECTION III: SUMMARY

RECOMMENDATION

SECTION I EMPLOYMENT RECOMMENDATIONS

5.1 Employment

a. When at all possible it is recommended that the Squadron be employed as an entire unit on most reconnaissance operations in the IV CTZ. This would allow the Squadron to maximize its capability for immediate reaction for exploitation and capitalize upon its tailored organization for combat to support any operation. However, airmobile quick reaction forces must be readily available to reinforce the committed Squadron when required.

b. The normal employment of an air cavalry troop must not be restricted to a set pattern on utilization of aircraft. The minimum quantitative requirement of organic aircraft which can effectively accomplish a troop size mission is: 4 OH-6A's, 4 AH-1G's, 4 UH-1H's and 1 C&C aircraft. This minimum requirement is adequate for the troop to sustain operations by relief on station in a given area of operation. The troop commander should employ these assets as dictated by the situation with success of the mission being paramount and if the target dictates, all aircraft can be used concurrently.

c. The present detachment of the third air cavalry squadron, "B" Troop limits the capability of the squadron to function in a squadron size role. The scope of the present mission of the air cavalry squadron in the IV CTZ is of such magnitude that the return of "B" Troop to the squadron would greatly enhance its combat effectiveness and provide for even greater tactical successes. Operation Blackhawk could be continuously covered with the surveillance means of three air cavalry troops and the Cambodian Border infiltration routes positively identified and eliminated if ground troops exploit the cavalry contact.

d. The cavalry troop should be a squadron controlled asset capable of immediate reaction to the squadron findings by mounted, dismounted or airmobile means. This capability of the cavalry troop is readily available when the squadron operates as an entity.

e. When the air cavalry troop is committed under the operational control of a unit, it must be clearly established that the assets of the air cavalry troop cannot be split. Weapons teams should be obtained from other resources within the IV CTZ, thus not detracting the air cavalry troop from its primary mission of reconnaissance and surveillance.

f. The present employment of the air cavalry squadron is geared toward finding and fixing enemy forces and a reaction force is essential to exploit established contacts. The commitment of the air cavalry troop's aero-rifle platoon to develop a target is a direct function of the immediate availability of a ready reaction force. Without this highly mobile force, the committed platoon may find itself in an untenable position if significant contact develops. In the IV CTZ, reaction forces are not

always readily available because of the joint nature of the operation, hence a reluctance to commit the platoon sometimes precludes contact development. The ideal situation is for the airmobile reaction battalion or battalions to be on standby with aviation assets available to immediately lift this force into the area of operation. Presently this situation is not always possible because of widespread commitments and a reaction to cavalry contacts cannot always be effected using the reaction forces concept. ARVN commanders in the Delta are rapidly becoming acclimated to the cavalry concept of employment and are modifying their tactics accordingly. Greater tactical successes are then possible than through the use of earlier "search and destroy" operations.

g. Independent cavalry operations as an economy of force unit on special missions has paid high dividends. Based on the intelligence, the situation, and the mission, the cavalry squadron is an ideal combined arms team for special operations such as raids on POW camps, VC communications, liaison headquarters and the like. When the situation permits, it is recommended that the cavalry squadron be given such independent tasks rather than in conjunction with a separate force. If the task is beyond the squadron's organic capability only then should a joint operation be launched.

h. The air cavalry squadron like other units in the Delta does lose some of its inherent mobility due to the seasonal flooding of almost all the border areas. As a result, sustained operations are launched from a permanent base area where fixed base maintenance facilities keep availability at a high level and more than compensate for the 30 to 45 minutes flying time required to move to the forward staging areas. Limited areas in the Delta such as the seven mountains region lend themselves to extended forward staging operations and were utilized for such purposes early in the rainy season. It is recommended that this technique be utilized more extensively when the dry season returns and the terrain will accept forward basing.

5.2 Fire Support

The importance of artillery fire to support air cavalry operations cannot be over emphasized. The ideal concept of cavalry employment visualizes the cavalry making the initial contact with the enemy while airmobile forces are employed to provide direct support in fixing and finishing the enemy force. Maximum use of the artillery must be realized and both the cavalry and the reaction force can capitalize upon the benefits of the artillery fires with no loss of support to either.

5.3 Utilization of the ALO/FAC Team

It is recommended that the ALO/FAC team attached to the air cavalry squadron be authorized and augmented with an O-1 or a comparable aircraft in the Delta region. The use of the aircraft would increase the effectiveness of the TAC air support to the squadron or any of its assets.

5.4 Intelligence Collection

a. Intelligence gathering in the IV CTZ is effective, however the flow of intelligence is slow through channels. An air cavalry troop while OPCON to a supported unit passes all information of intelligence nature to that supported unit. The squadron does not receive information on the contents of captured documents or POW interrogation until the intelligence is published in a daily intsum and distributed.

b. The squadron has the requirement to keep an updated intelligence collection for the entire IV CTZ. This is based on the individual troop employment OPCON to any of the three ARVN divisions or the 44th STZ. In essence, the air cavalry squadron can and is required to operate anywhere in the Delta at anytime; therefore current intelligence of the whole area must be maintained.

c. It is recommended that all intelligence available to IV Corps be passed to the squadron for consolidation as rapidly as possible. Immediate intelligence frequently breeds more intelligence and results in immediate reaction.

5.5 Air boat Utilization

a. During the wet season the air cavalry squadron can work very well in conjunction with the airboats organic to the Special Forces in IV CTZ. These airboats if employed properly with adequate fire support can be used quite successfully as a mobile strike force against the enemy.

b. It is recommended that the airboat concept be used more in conjunction with the air cavalry reconnaissance effort during the wet season in IV CTZ, specifically within the 44th STZ.

5.6 Air Cavalry Troop Aero-rifle Platoons

Strength of the rifle platoons of the air cavalry troop during the period analyzed has steadily ebbed as a result of combat losses, normal rotations and administrative absences. The squadron deployed from the states with a shortage of personnel in MOS 11B and did not receive replacements after arrival in-country. It is essential that the rifle platoons be kept up to strength in the interest of successful mission accomplishment. The insertion of these platoons is extremely limited when strengths are reduced because of their relative vulnerability when inserted. It is recommended that the rifle platoons of the squadron receive top priority for replacements until such time as they achieve a satisfactory combat posture.

5.7 National Police

a. Dismounted sweep operations within the Vinh Long Province area on a daily mission basis in conjunction with National Police personnel have proven highly successful.

b. These national police who are authorized to search personnel and homes within the area greatly assist the unit and enhance its combat effectiveness. Operations with the National Police promotes a better understanding between Vietnamese civilians and US soldiers. Their capability of interrogation and translation while sweeping populated areas improves the intelligence gathering and the apprehension of suspects by combined US and Vietnamese forces.

c. It is recommended that all US units operating in populated areas utilize the National Police to expedite interrogation and to assist in translation.

5.8 Additional Assets

The present geographical boundaries and stationing of forces in the IV CTZ ideally suits the Delta for the employment of four additional air cavalry troops. One troop would fill out the organic air cavalry squadron and each of three separate air cavalry troops should be stationed at Dong Tam, Vinh Long and Can Tho. The troop stationed at Dong Tam would be in direct support of the 7th ARVN Div; the troop at Vinh Long would support the 9th ARVN Div and the Can Tho based troop would support the 21st ARVN Div. The air cavalry squadron would be employed exclusively in the 44th STZ along the entire expanse of the Cambodian Border where the mission and the terrain is highly compatible with the squadron capabilities.

SECTION II MATERIAL

5.9 Aircraft

a. It is recommended that the air cavalry troop aircraft be tailored to provide a suitable command and control vehicle for the troop commander. The loss of the UH-1C with additional FM radios and armament system denies the troop commander some responsiveness and support. The UH-1H command and control aircraft should as a minimum be equipped with an XM-21 weapons system to provide the troop commander with a limited amount of residual fire power to influence the situation.

b. It is recommended that the air cavalry troop be issued one more AH-1G for the aero-weapons platoon. Presently each air cavalry troop is operating with 9 AH-1G's in each weapons platoon which is one short of TO&E authorization. This creates an unbalanced configuration within the platoon and an uneven distribution in two sections.

5.10 Aircraft Weapons Systems

a. The aircraft weapons systems in the air cavalry squadron need to include the 40mm M-5 Kit or the M-28 system. The area coverage and accuracy of this weapon is ideal and its characteristics are unchanged by the seasonal conditions in the Delta. The 40mm grenade is especially effective when targets seek to hide under water which is a favorite tactic of the VC throughout the Delta.

5.11 Aircraft Communication System

a. There is a definite requirement for the air cavalry squadron and troop command and control aircraft (UH-1H) to have dual FM communication capability. The air cavalry troop and squadron commanders and additionally, the S3, have a definite need to have a dual FM; UHF, and sometimes HF radio while working in the IV CTZ. The HF requirement is based on the communication distance involved from any area of operation on the border to the installation base camp. The dual FM requirement is necessary to cope with the constant requirement to communicate with troop ground units, the supported unit and the supporting units.

b. The AN/ASC-10 & 11 will solve this requirement and provide access to the necessary communication nets of the air cavalry troop and squadron command elements. The air cavalry squadron operating in the Delta region should be augmented with five AN/ASC-10 or 11's to eliminate existing communication problems. The console should be equipped with one (1) HF one (1) UHF, and two (2) FM radios. The breakdown of the AN/ASC-10 & 11 within the squadron would be:

HQ Troop Avn Plat - 2 mounted in UH-1H

(1) CO

(1) S-2/3

Air Cav Troop Avn Sec - 1 mounted in UH-1H

Total Requirement - 5 mounted in 5 UH-1H

5.12 Vehicles

a. It is recommended that the wheeled vehicles presently authorized the cavalry troop be replaced with track laying vehicles, specifically the M113 Armored Personnel Carrier with the same configuration that has been adopted by the armored cavalry squadrons in country. This change would give the cavalry troop the mobility required to successfully perform the assigned mission and greatly enhance the overall capabilities of the squadron. It is suggested that the 106 recoilless rifle be mounted on top of the armored personnel carrier so that the firepower of this weapon is not lost to the troop.

b. A suggested TO&E is as follows:

- (1) 7 M113 APC's in each platoon (3 platoons)
 - (a) 2 in the scout section
 - (b) 2 in anti tank section
 - (c) 1 in the rifle squad