SECTION IV

AMOBILE OPERATIONS IN LAOS

A. (U) CONCEPT OF OPERATIONS

1. Unit Alignment

An Assault Helicopter Battalion was placed in direct support of each major ARVN unit. This positive orientation was designed to facilitate planning, coordination, and execution of combat operations while simultaneously realizing an increasing degree of confidence and professionalism between the US helicopter battalions and the ARVN units they were supporting. The 223d CAB was placed in direct support of the 1st ARVN Inf Div. All airmobile assaults conducted by the 1st ARVN Inf Div were controlled by the 223d CAB. Additionally, all UH-1H general support aircraft required by the 1st ARVN Inf Div were provided by the 223d CAB. The 158th AHB was placed in direct support of the 1st ARVN Airborne Division and the 1st ARVN Ranger Group. All combat assault and general aviation support requirements for these two units were controlled by the 158th AHB. The 14th CAB was placed in direct support of the VNMC Division and controlled all combat assaults and general support missions for the division.

2. Aircraft Allocation

Based on mission requirements, the assets of the twelve assault helicopter companies and four aerial weapons companies were allocated to the three assault helicopter battalions. Additionally, assets were reallocated during the day as requirements changed. The only constant in aircraft allocation was the direct support battalion headquarters which habitually worked with the designated ARVN units. Aviation companies of the various aviation battalions performed well, regardless of the controlling battalion headquarters.

3. Heavy Lift Support

The Commanding Officer, 159th ASHB was charged with the responsibility for coordinating and performing all heavy lift missions. A liaison officer from the 159th ASHB was assigned to each major ARVN unit. Additionally, a pathfinder team from the 101st Aviation Group was placed at all resupply bases in South Vietnam.

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4. Planning Conferences

All combat assaults and resupply missions were to be preceded by detailed planning conferences. As the situation developed, the planned coordination conferences became a tactical necessity. The desire, willingness and professionalism of ARVN planners and commanders greatly enhanced helicopter operations during LAMSON 719. All US aviation unit commanders to company level had served at least one previous tour in Vietnam. The US/ARVN experience level was evident during planning sessions. The success of airborne operations in Laos can largely be attributed to the detailed planning preceding each operation.

5. Mission Assignment

Liaison officers drawn from the helicopter battalions supporting each major ARVN unit provided a direct line of communication from the supported unit to the 101st Aviation Group. Through this channel all requests for aircraft support for the succeeding day's operation were passed to this controlling headquarters. Mission requests were consolidated at 101st Aviation Group and priorities of support and allocation of resources were referred to I Corps for decision. A detailed discussion pertaining to allocation of resources is presented in Section IV-C.

6. CC 101st Aviation Group Command

During the planning and preparatory phase prior to the beginning of LAMSON 719, it was envisioned that multiple combat assaults and resupply operations would occur daily throughout the operation. Therefore, planning, execution and allocation of resources would necessarily remain flexible to insure responsiveness to the many requirements. Changing allocation of resources to meet existing requirements was the responsibility of the Operations Section, 101st Aviation Group. Through multiple means of communication to include the assigned liaison officer, the Operations Section, 101st Aviation Group monitored operations throughout the LAMSON 719 area of operations. Additional requirements for aircraft were frequently anticipated in advance of an actual request. This control center maximized utilization and responsiveness of aviation assets to changing mission requirements. The established concepts for conducting combat assaults were followed throughout LAMSON 719. These concepts proved sound. Particularly rewarding was the confidence and professionalism that developed between the ARVN units and supporting aviation units.

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B. - (U) COMMAND AND CONTROL

1. General

Command and control of airmobile operations in Laos generally paralleled the procedures employed in Vietnam; however, there were several significant differences.

a. In-country Command and Control

In Vietnam, immediate control of an airmobile assault is exercised by the Air Mission Command (AMC) and the Airmobile Task Force Commander (AMTFC). The AMC is the senior aviation unit commander and is responsible for command and control of the aviation assets. The AMTFC is the designated ground commander. During the combat assault, the AMC and the AMTFC are located in the Command and Control aircraft and position themselves where both can best control the operation. The AMTFC has the "go" or "no go" power of decision in a United States Army operation, although he gives great weight to the recommendation of the supporting Air Mission Commander.

b. Out-of-country Command and Control

In Laos, during airmobile operations conducted in support of LAMSON 719, the ground forces and the Ground Commander were Vietnamese, while the Air Mission Commander and the supporting aviation crews and assets providing airmobility were American. There was no Airmobile Task Force Commander in the sense used by the United States Army. The Ground Commander and the Air Mission Commander were coordinate and coequal, each responsible for a separate national force. Each national force had a different function. Therefore, "go" or "no go" decisions were arrived at jointly through discussion, cooperation, and coordination.

2. Commander Structure

The AMC and the Ground Commander directly controlled all combat assaults. Usually the aviation battalion commander performed
as AMC and appropriate ARVN regimental commander performed as Ground Commander. In order to comprehend the complete functioning of elements exercising command and control during the combat assaults conducted in Laos, the entire chain of command must be examined.

a. CG - I Corps

The CG of I Corps approved all major combat assaults. Additionally, aviation assets to be used during the assault were also subject to his approval. The CG was normally located at I Corps Forward Command Post, Khe Sanh, and was generally available to render decisions on matters as they occurred during the day.

b. Division Commanders

ARVN division commanders normally participated in pre-assault planning and briefings. All combat assaults were subject to approval by the appropriate division commander. During the conduct of combat assaults, division commanders were normally present in their command post and were available to consider matters referred to them for decision.

c. ADC(O), 101st Abn Div (Ambl)

The ADC(O), 101st Abn Div (Ambl) was likewise present in the LAMSON 719 area of operations. The ADC(O) was the senior decision maker and decision expeditor regarding US airmobile support in Laos. Major decision points related to US aviation support were referred to the ADC(O). Additionally, the ADC(O) would forward to I Corps these urgent matters requiring consideration and decision by ARVN.

d. Commanding Officer, 101st Aviation Group

As the senior US aviation unit commander in Laos, CO, 101st Aviation Group exercised command and control of all aviation units participating in support of LAMSON 719. The forward command post of the 101st Aviation Group was located at Khe Sanh throughout the period. An augmented operations section with multiple means of
communication enabled CO, 101st Aviation Group to monitor simultaneously all air operations occurring in Laos. During all combat assaults either the ADC(O) or CO, 101st Aviation Group exercised direct supervision of the operations.

e. Air Mission Commander/Ground Commander

The Air Mission Commander and Ground Commander controlled all combat assaults as previously discussed.
C. (U) ALLOCATION OF RESOURCES

1. Request for Aviation Support

As previously discussed, the liaison officers from the 101st Aviation Group to the major RVNAF units compiled and submitted their units' requests for aviation support. These requests were normally reviewed by the supporting aviation battalion commander prior to submission. This initial review greatly expedited consolidation of requests and preparation of a recommended allocation of aircraft for submission to I Corps for approval.

2. Action by 101st Aviation Group

Commanding Officer, 101st Aviation Group, attended the 1730 hours command briefing at Headquarters, I Corps. During this briefing the subsequent day's operations were discussed. CG, I Corps, indicated the relative priority of the following day's operations. Based on the guidance and priorities presented at the 1730 hours briefing, aircraft allocations to support the following day's missions were established and disseminated to all aviation units. Aircraft allocations were reviewed by CG, I Corps, each morning at the 0615 hours command briefing. CO, 101st Aviation Group, briefed the CG, I Corps, each morning on the missions to be accomplished, relative priority and aircraft allocated for each mission. CG, I Corps, approval of aircraft assignment constituted formal approval of allocation of aviation resources by the Corps Commander. It is significant that CG, I Corps, did not at any time during LAMSON 719 change the allocation of aviation resources as recommended by CO, 101st Aviation Group.

3. Factors Influencing Recommended Allocation of Resources

a. Mission Priority

As previously indicated the relative mission priority was established by CG, I Corps, at 1730 hours command briefing.

b. Review of Tasks to be Accomplished

Throughout LAMSON 719 all tasks were carefully reviewed
each night to determine the optimum number of aircraft that should be
distributed for each mission. At 2000 hours each night, ADC(O), 101st
Abn Div (Amb), was briefed in detail on that day's operations and the
planned operations for the following day. In attendance at the 2000
hours briefing were CO, 101st Aviation Group, and key group staff
officers; battalion commanders, or S-3 of all aviation battalions; CO
or S-3, 2/17 Air Cavalry Squadron; CO, 4/77 ARA Bn (Fwd); and
representatives from supporting units. All aviation battalion com­
manders presented their plans for the following day's operation and
aircraft resources required to perform the missions. This intensive
review of daily operations and plans for the next day provided a sound
basis for allocation of aviation resources for operations to be con­
ducted the following day.

c. **Principles Influencing Aircraft Allocation**

1. **Maximum Combat Power to be Landed in Minimum Time**

   Paramount consideration was given to rapidly landing the
   maximum in combat power in minimum time. Particularly desirable
   was to ensure that sufficient aircraft were allocated so that the com­
   bat assault of a battalion size unit could be completed before the air­
   craft were required to refuel.

2. **Allocation of Heavy Lift Assets**

   Heavy lift assets were so programmed as to insure com­
   pletion of tactical movements in minimum time and in consonance
   with the desires of the ground commander.

3. **Frequent Re-allocation of Assets**

   The flexibility inherent in airmobile operation was fully
   exercised during LAMSON 719. UH-1H lift companies were ex­
   ditionally switched from the control of one helicopter battalion to
   another in order to achieve maximum utilization of assets and to
   provide desired concentration of aircraft to support designated mis­
   sions. The ability to shift assets rapidly from support of one RVNAF
   division to another was particularly noteworthy.
(4) General Support Requirements

Daily gunship requirements for resupply escort, medical evacuation missions, downed aircrew and aircraft recovery severely taxed available gunship assets. The general support gunship requirements competed with gunship requirements allocated in support of combat assaults.

4. CO, 101st Aviation Group Comments

Allocation of aviation resources was one of the major tasks to be accomplished daily during LAMSON 719. Rarely were there sufficient assets to provide all units with the aircraft in the numbers requested. However, the shortage of assets was offset by rapid and efficient re-allocation during the day to insure mission accomplishment in the priority established by the I Corps Commander. Initially, senior RVNAF commanders did not appear to fully understand how aircraft were allocated and why their unit did not receive all the aircraft they requested each day. The ADC(O), 101st Abn Div (Ambl), through a series of personal visits to senior RVNAF commanders and through explanations and observations presented at the I Corps Commander's briefings eliminated points of misunderstanding.
D. (U) AIR CAVALRY OPERATIONS

1. Missions

The 2d Squadron, 17th Cavalry was tasked to locate and destroy antiaircraft weapons, to locate enemy concentration, to provide reconnais­sance and security for allied units participating in LAMSON 719 and to accomplish downed aircrew recovery in Laos. From these tasks the following missions were derived: long range reconnaissance, security missions, and reconnaissance for combat assaults and extractions.

2. Organization for Combat

a. The 2d Squadron, 17th Cavalry was organized with the following air cavalry troops: A/2/17 Cav, C/2/17 Cav, B/7/1 Cav (OPCON), C/7/17 Cav (OPCON). These air cavalry troops were complemented by one dismounted ground cavalry troop (D/2/17 Cav) which was re­stricted to employment inside RVN. The HAC BAO Company, 1st ARVN Inf Div, was also OPCON to the 2d Squadron, 17th Cavalry for the security and/or extraction of downed aircraft crews in Laos.

b. The 2d Squadron, 17th Cavalry crossed the Laotian border on 8 Feb 71 in direct support of the ARVN Corps in Laos, and general support of XXIV Corps. C/2/17 Cav and C/7/17 Cav supported the Ranger, Airborne and Armored units astride and to the north of Route 9. A/2/17 Cav and B/7/1 Cav supported the 1st ARVN Inf Div and the VNMC units south of Route 9. The HAC BAO Co was used as required in the LAMSON 719 area of operation. The final decisions regarding the allocation of air cavalry resources were made by CG, I Corps.

3. Reconnaissance and Target Acquisition

a. The 2/17 Cav was permitted to cross the border on 8 Feb 71 only after RVNAF ground forces initiated operations in Laos. This con­straint precluded early reconnaissance of NVA antiaircraft installations. The Cav preceded the initial airborne assault into Laos by approximately two hours and had only about one hour to conduct reconnaissance opera­tions and screen landing zones prior to the combat assaults. Once the...
initial troop insertions were complete, the Cav moved well in advance of the ground forces and began reconnaissance 8-15 km to their front and flanks. Emphasis was placed on areas where future troop insertions were to be made, and on locating and destroying enemy antiaircraft weapons. Storage areas, personnel, equipment and other targets of opportunity were located and engaged, and the first few days of the operation found the Cav in a reconnaissance role. As the ground operation in Laos continued, the mission of the Cav changed from strictly reconnaissance to security operations. Demand for gunships was heavy, and the Cav began to work closer to friendly units as they made more contact with NVA forces. The Cav emphasis shifted from locating and destroying antiaircraft weapons and storage areas to locating enemy troop concentrations and indirect fire weapons that posed an immediate threat to ARVN forces. Cav gunships began providing close fire support at the expense of deeper reconnaissance.

b. With all Cav troops working in close proximity to ground elements, the overall intelligence gathering capability of the Cav was diminished. Immediate threats to ARVN ground forces and supporting aircraft were being detected, but NVA troop concentrations and antiaircraft coming into the operational area from a distance were experiencing relative freedom of movement. At this time the Cav Squadron Commander went to the I Corps Commander that two troops be placed in direct support of ground forces, and that the other two work in general support well in front of and to the flanks of ARVN forces. This recommendation was accepted as a balance to satisfy the competing requirements of security and reconnaissance.

4. Support of Combat Assaults

It became apparent during the early phases of LAMSON 719, that massive fire support in the form of TAC air, ARA and Cav gunships would have to be available in order to run combat assaults without losing excessive numbers of lift ships. Air Cav was used in the traditional cavalry role of reconnaissance and security. Upon receiving the mission to support a combat assault or extraction, one to four air Cav troops would be tasked to perform the cavalry portion of the operation. The air cavalry would precede the lift to the operational area, looking
for relatively safe routes, a primary landing zone, and alternate landing zones. The routes in and out would be reconnoitered and recommendations would be passed to the Air Mission and Ground Commanders prior to the actual insertion/extraction. The Cav worked in conjunction with the ARA and tube artillery, when available, to prepare the objective area. Normally the Cav command and control aircraft on station would assume control of the fire support assets, employing them against targets detected during the Cav reconnaissance. Immediately prior to an actual insertion/extraction the Cav team on station would make a final check of the landing area, and make recommendations to the Air Mission Commander as to whether the mission should continue or whether additional preparation was required. Once a lift began, the Air Mission Commander assumed control of the ARA and the FAC who was controlling the smoke, and the Cav would move out and screen away from the landing zone. TAC air and Cav gunships would then attack known or suspected antiaircraft weapons in the general area, clearing as wide an area along approach and departure routes as possible. Cav aircraft were also prepared to protect and extract downed aircrews in the vicinity of the landing zone if required.

5. Antiaircraft Engagements

In all cases where antiaircraft weapons were encountered, the 2/17 Cav requested TAC air, since the USAF has the standoff range and the fire power to engage antiaircraft weapons at a more acceptable risk level than does the Cav with organic gunships. When the Air Force had higher priority missions and was not available for such support, organic aircraft on occasion engaged and destroyed antiaircraft weapons as large as 37mm. However, 23mm and larger were usually not engaged but marked for a FAC. Antiaircraft engagement tactics varied from troop to troop, but generally the concept was to use as many gunships as possible, attacking simultaneously from different directions. If, as in the first month, OH-6A's were with the team, they were put in orbit out of effective range until the gun was destroyed. The most difficult aspect of engaging NVA antiaircraft weapons was to pinpoint the exact location of the weapon. The NVA had excellent fire discipline and used mutually supporting positions, firing short bursts as helicopters flew through their kill zones. Once a weapon was pinpointed, the AH-1G had range standoff advantage over the 12.7mm and 14.5mm. Flechettes, HE and WP

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rockets and the XM-35 20mm gun if available were all used in engagement. The most significant anti aircraft threat faced by the Cav was the 12.7mm heavy machine gun. The NVA employed large numbers of these weapons, and located them so as to be mutually supporting along likely helicopter approach routes. As far as can be determined the Cav lost no aircraft to weapons larger than 12.7mm, although several hits were recorded from 37mm airbursts. To counter the 12.7mm threat and still not become unacceptably vulnerable to larger caliber fire, most Cav teams operated at 3500 feet AGL to 5000 feet AGL, except for one AH-1G operating low and fast to detect targets.

6. Tank Engagement

a. During LAMSON 719, the 2/17 Cav encountered PT-76 tanks, a target new to the squadron. Initially HEAT Rockets were not available; engagement was made with ordnance on hand. Upon sighting a tank the AH-1G's would initiate contact at maximum range with 2.75 Flechette rockets. This served to wipe personnel off the vehicles and their immediate proximity. As the gun run continued, the AH-1G pilots would begin firing a mixture of HE and WP rockets, breaking off the run at approximately 1000 meters.

b. When available, the XM-35 20mm cannon was used. This weapon is extremely accurate, and affords a standoff distance of 2000 to 2500 meters; however, adequate ammunition is not available for this weapon. The USAF armor piercing incendiary is not compatible with the XM-35 system and attempts to locate a compatible API round were not successful. Twenty millimeter HEI was used with unknown results, since 2.75 FFAR were also being fired from the same attack aircraft.

c. When HEAT rockets became available, results were mixed. The rocket is capable of penetrating armor, but direct hits on the target are required. This dictated that engagements be made at ranges of 900 - 1000 meters from the target, thus exposing the gunship to the tank's 12.7mm and to supporting infantry in the area.

d. Normal tank engagement was with TAC air. Upon sighting a tank or group of tanks, the Cav gunships would engage them to maintain contact, then turn the target over to the Air Force and continue recon missions. If TAC air was not available, the gunships would engage
tanks until their ordnance was expended, but rarely had enough ordnance to destroy every tank in a particular sighting. Between 8 Feb 71 and 24 Mar 71, the Cav sighted 66 tanks, destroyed (burned) six, and immobilized eight. The majority of the other tanks not destroyed or damaged by the Cav were turned over to USAF. Three of the destroyed tanks were hit with flechettes, HE and WP; and the other three were destroyed by combinations of flechettes, HE, WP and HEAT.

e. It is necessary to note that the PT-76 cannot correctly be classified as a true tank. It can best be described as a lightly armored personnel carrier; the AH-1G with present weapons systems would have little or no effect against a tank such as the T-54. The following criteria were established by the 2/17 Cav to claim a tank destroyed or damaged. To classify a tank destroyed, the tank had to explode or burn, whereas a damaged tank was immobilized, parts were blown off and the tank was incapable of further movement without repair. While admittedly restrictive, the use of these reporting criteria showed an accurate picture of results obtained with weapons employed.

7. Use of the OH-6A

a. The Cav tailors its reconnaissance teams to cope with the enemy threat in the area of operations. For example, in the pacified lowlands of Quang Tri and Thua Thien provinces, reconnaissance is performed by a "white" team composed of two OH-6A's. These aircraft are lightly armed and vulnerable, but have good visibility and maneuverability. In the piedmont and fringes of the mountains the Cav uses one OH-6A and one AH-1G to form a "pink" team. The OH-6A performs the recon, and the AH-1G provides protection, navigation, and target destruction. In higher threat areas such as the A Shau Valley and Vietnamese salient a heavy pink team with UH-1H Command and Control aircraft is used. This team is composed of an OH-6A for reconnaissance, two AH-1G's for protection of the OH-6A and initial fire support, and the UH-1H whose primary function is to direct the team and to extract downed crews.

b. It became apparent that the OH-6A was too vulnerable to operate in the LAMSON 719 environment as a part of a recon team. It is too lightly armored and will not withstand the number of hits that the AH-1G will. As a result, the Cav troop commanders elected to
operate teams with two to six AH-1G's and a C&C aircraft. Former
OH-6A scout pilots were used as AH-1G crew men; and the AH-1G
was used as the primary reconnaissance vehicle. Although not designed
for reconnaissance, the AH-1G proved a good scout vehicle. It had the
ordnance to immediately engage enemy positions that threatened it, and
had enough speed to make high speed runs through suspected hostile
areas without unacceptable risks.

8. Support Requirements

a. LAMSON 719 reaffirmed that air cavalry squadrons, to be
fully effective, must have immediate access to USAF support. The Cav
has the ability to locate and record enemy targets, but frequently lacks
the firepower to destroy them. Prior to LAMSON 719 the 2/17 Cav
used the 101st Abn Div (Ambl) Air Liaison Officer and control head­
quarters as its TACP, and FAC's were borrowed from the infantry
brigades to provide USAF support in the Cav area of operations.

b. When LAMSON 719 began the Division ALO remained with
Division headquarters and the brigade FAC's remained in support of
their respective infantry brigades, and thus were not available for Cav
support in Laos. As a result, even though TAC air and "out of coun­
try" FAC's were available during LAMSON 719, the Cav was initially
unable to employ these assets because of a lack of knowledge of FAC
frequencies, assigned areas, and USAF rules of engagement.

c. On 2 Mar 71, a TACP was attached to the 2/17 Cav at Khe
Sanh, significantly improving and expediting air cav requests for TAC
air support. In addition, one FAC was assigned to work with the air
cav troops on the most lucrative targets. The FAC was shifted by the
TACP to other troop areas of operations as targets were developed.

9. CO, 2/17 Cavalry Comments

a. The traditional missions of cavalry (reconnaissance, se­
curity, and economy of force) were all performed during LAMSON 719.
From a cavalry viewpoint, the deep reconnaissance mission was most
successful in that it accentuated the primary advantages enjoyed by US/
ARVN forces over NVA, the mobility and firepower differential. The
NVA were unable to counter effectively the reconnaissance in depth due
to the large and constantly shifting area of coverage. The associated
freedom in use of supporting fires (TAC air, ARA, arty) not in close proximity to friendly troops, made the firepower and mobility advantages more apparent.

b. In a combat environment where the enemy poses an armor threat, air cavalry must have an adequate tank-killer capability. Once armored targets were acquired, the technique of fixing the target until more effective fires could be brought to bear was quite effective in LAMSON 719. This was accomplished, however, against the PT-76 which has very light armor plate. Against a true tank, the capability to fix such targets is very doubtful.

c. The OH-6A is marginally suitable as a scout vehicle in a low intensity environment. In a mid-intensity situation where an area is saturated with well-organized, multicaliber antiaircraft defense systems, the OH-6A is totally inadequate. This inadequacy is reflected in three critical areas. First, the aircraft will not sustain hits from weapons above .30 caliber and still fly home an acceptable percentage of times. Second, inadequate crew protection is provided (i.e., armor plate). Third, this aircraft does not have a weapon system suitable to the scout mission. The weapon system fires only straight ahead. In order to place suppressive fire on a target which has fired on the scout, he must go straight into the target. If he turns away (as he should) the target is left unsuppressed for a vital few seconds until the covering gunships are brought to bear. It is most desirable that future scout vehicles have a weapons system capable of firing to either side and approximately 135 degrees to the rear.

d. The AH-1G and the UH-1H (also organic to the air cavalry squadron) proved to be effective, rugged machines, entirely capable of adequate performance in the LAMSON 719 environment.
E. (U) **COMBAT ASSAULTS**

1. General

Organizing and conducting successful airmobile assaults is the ultimate objective of all airmobile operations and is the most difficult phase to achieve successfully. During the initial phase of LAMSON 719 ARVN forces assaulted into Laos on a wide front by establishing firebases RANGER, LZ 30, LZ 31, LZ DON, LZ BLUE, and LZ ALUOI. Air Mission Commanders were learning techniques for dealing with enemy antiaircraft weapons, adverse weather, new terrain and selection of LZ's.

2. Command Guidance

As the first month of LAMSON 719 ended, the ARVN campaign was progressing. However, a new battle plan was formulated, and on 1 March CG, I Corps announced his guidance. The 1st ARVN Infantry Division would attack west along the escarpment by establishing a series of fire bases: LOLO, SOPHIA, and would occupy HOPE. Each fire base would support the assault on the subsequent fire base. The CG, I Corps reaffirmed his goals by stating that the principal objective of the Republic of Vietnam was the landing of Vietnamese troops in the Tchepone area. The mission accomplishment of LAMSON 719 depended upon successful combat assaults in a mid-intensity environment.

3. Planning

a. **Ground Planning**

ARVN commanders conducted briefings daily to keep supporting units abreast of the situation and to generate planning among their staff. The aviation battalion commanders attended each of these briefings and knew at least 24 hours in advance what the supported division planned for the next day. The ground commander designated which area would be assaulted and gave his concept of the operation. The Air Mission Commander worked very closely with the Ground Commander to formulate the plan in reverse planning sequence. The
Ground Commander was especially concerned with fire support once on the ground and the number of aircraft required.

b. Aviation Planning

(1) Flight Routes

Flight routes were planned to avoid enemy antiaircraft weapons and to overfly friendly positions when possible. In the initial phase of LAMSON 719 these were not so important since distances to the fire bases and LZ's were limited; however, routes became very important when flying further west. Those aircraft utilizing fire bases as safe havens were practically all recovered, whereas others were lost in unsecured areas. During times of poor visibility the Xe Pon River was the only visible means of navigation and became a natural flight route. This was especially true during the assault of LiZ.

(2) Flight Altitudes

Previously 1500 feet was considered safe from ground fire. Heavy antiaircraft weapons in Laos drove the aircraft to considerably higher altitudes. Above 6,000 feet AGL the aircraft are subjected to .7mm and larger weapons while below 4000 feet AGL they were engaged by 12.7mm machine guns and smaller caliber. There was no safe altitude, but most flights conducted between 4000 and 6000 feet AGL were not successfully engaged.

(3) Weather

Throughout LAMSON 719 weather had a major effect on the timing of airmobile operations. Rain, early morning fog and limited visibility frequently delayed airmobile operations for the entire day. Weather was considered in the planning of all combat assaults, and as a result H-hour was a flexible time.

(4) Formations

Single ship trail formations showed early promise and were successfully used throughout LAMSON 719; these formations varied but were usually flights of ten. One-ship and two-ship land-
...ing zones precluded the use of mass formation flying. The widely dispersed trail formation reduced the possibility of loss of more than one aircraft to a single engagement.

(5) Turn Around Time

Multiple lifts make the turn around time between the PZ and the LZ a critical factor. In the early phase of LAMSON 719 for assaults of RANGER, 30, 31, BLUE, HOTEL, etc., each aviation battalion competed for the use of the Khe Sanh POL facility. Schedules were difficult to follow in that each AMC had a fluid H-hour, and it was not uncommon to see several flights converging on Khe Sanh POL at the same time. When mass lifts were planned and all aircraft were supporting the same AMC (LZ HOPE) staggered refueling was used at FB VANDERGRIFT, Quang Tri and Khe Sanh.

(6) Aircraft Load

A standard ACL of six to seven troops was used by the 101st Aviation Group on previous operations with the ARVN and proved acceptable throughout LAMSON 719.

(7) Reconnaissance

The AMC conducted a joint reconnaissance with the Ground Commander to determine the routes of flight and LZ location. The critical factor was exact LZ and alternate LZ locations. In the initial phase of LAMSON 719, ground commanders were satisfied if the aircraft were landed in the general LZ area. (LZ RANGER was relocated approximately 800 meters just four minutes before arrival of the lift ships). During the assault of LIZ, relocation of the LZ 200 meters north to an alternate location was difficult.

(8) Coordination of Fire Support

The AMC planned the use of all weapons and recommended a fire support plan to the Ground Commander that would best support the operation. (See para 9, Landing Zones)

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(9) **Downed Crew Extraction and Aircraft Recovery**

Two items always included in the planning were downed aircraft recovery and downed crew extraction. The number of aircraft allotted to downed crew extraction would vary with the size of the assault element. A figure of one extraction aircraft per ten lift aircraft was used most frequently. Planning for aircraft recovery was coordinated with the downed aircraft recovery center established by the 101st Aviation Group.

(10) **PZ Selection**

Throughout LAMSON 719, pickup zones for combat assaults were established by the Ground Commander of the assault forces. When the PZ was located on known friendly terrain, little deviation from established considerations occurred. When the PZ was located on known or suspected hostile terrain, a variety of new considerations developed for determining the best area from which the friendly forces could be extracted. The primary threat to pickups was enemy direct and indirect observed fire. The solution was to locate the PZ in defilade, in terrain that aircraft could hide their approach paths without the risk of small arms fire. PZ's behind the shoulders of nearby ridge lines, and the back slopes of hills held these advantages.

(11) **LZ Selection**

The initial reconnaissance with the Ground Commander should determine if the LZ meets both the criteria from the aviation view and the tactical plan of the Ground Commander. Alternates were suggested and often approved. (See par 3b(7) Initial Reconnaissance).

(12) **Planning Time**

The AMC usually had sufficient time for the formulation of his plan and a briefing of all flight commanders prior to the assault. Briefing of flight crews was usually conducted just prior to launch.
4. Command and Control
   
a. General

   The Air Mission, Ground Commander, their deputies and staffs who plan, direct and coordinate, composed the command and control element. Control was usually airborne in a command and control UH-1H aircraft. Alternate leaders were appointed, and a clearly designated succession of command down to the lowest level was established.

b. Command and Control of Aircraft

   To control operations during LAMSON 719, the AMC had with him the Ground Commander or his representative, an ARVN artillery liaison officer and an interpreter, when available. Due to the time required to complete the larger operations, alternate AMC's were designated, each with a corresponding Ground Commander's representative. When the PZ was a field location, command and control aircraft were necessary to insure a smooth flow of traffic into the PZ. Command and control aircraft were also designated for aircraft recovery and downed crew extraction operations. These additional command and control elements enabled the AMC to focus his full attention on the assault phase of the operation.

c. Radio Nets

   The AMC maintained communications with the Air Force FAC on FM and VHF. VHF was also his primary means of communication with his reconnaissance element, the cavalry, who was given control of all airborne fire support elements prior to the assault. Flight control was maintained on UHF with each flight commander. FM secure was used extensively to communicate secure information and to make recommendations for changes in the basic plan. Only UH-1H aircraft of the 101st Abn Div (Air) were equipped with a secure capability, and this limited considerably the flow of classified information and situation reports. All aircraft monitored the UHF command net.

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d. Flight Control

Flights of ten UH-1H aircraft were determined to be most acceptable and provided flexibility and control. This coincided with the requirement of ten aircraft per lift company and promoted flight integrity. Internal flight control was conducted on VHF.

5. Reconnaissance

a. Initial Reconnaissance

The primary reconnaissance of LZ areas was accomplished by the division's organic cavalry squadron. The cavalry troop assigned the reconnaissance mission of a designated LZ area would begin its work as much as three to four days in advance of the assault. The reconnaissance of the LOLO area began a full week prior to the assault. Particular attention was devoted to locating usable touchdown points, and detecting enemy positions. All detected enemy positions were dealt with by the appropriate weapons system available which ranged from airstrikes to AH-1G gunships. Three 12.7mm positions approximately one kilometer southwest of LOLO were detected by the cavalry, one week prior to the assault. These targets were given to the Air Force and destroyed. This is only one example of the rapid employment of massive fire power in response to reconnaissance information which has proven to be so successful in neutralizing enemy threats. The locations of possible LZ's, enemy positions, and notable cache sites were passed by the cavalry troop through its higher headquarters to the AMC and Ground Commander. The troop would continue its reconnaissance of the LZ area during the following days in attempts to detect and neutralize additional enemy positions. When the AMC and Ground Commander decided upon a suitable touchdown point, the cavalry troop employed air strikes and TAC air on the primary LZ, its approach and departure paths, and areas which were suitable for use as alternate LZ's. The troop placed great emphasis on continuing its operation in a large area to prevent the enemy from determining the exact location of the LZ and adjusting his defense accordingly.
b. **Final Reconnaissance**

On the day of the combat assault, the troop no longer concealed the location of the LZ. Along with the AMC and Ground Commander, the cavalry troop directed air strikes and TAC air on the LZ. When the AMC and Ground Commander judged the LZ and approaches to have been adequately prepared for the combat assault, they shifted the supporting fires and directed the air cavalry to conduct low-level reconnaissance of the LZ to determine if it was ready for the combat assault to begin. This final reconnaissance just before launching of the combat assault was the most crucial reconnaissance of all. The AMC and Ground Commander usually approved the cavalry commander's recommendation either to begin the combat assault or to employ additional preparatory fire power. On SOPHIA, the cavalry drew 12.7mm fire on their final reconnaissance of the LZ. The AMC and Ground Commander approved the cavalry commander's recommendation to employ additional preparatory fire power. More than an hour of additional preparation was put on specific targets the cavalry troop had located, concentrating heavily on gun emplacements. The cavalry then conducted another final low-level reconnaissance and advised the AMC and Ground Commander that the LZ was now ready. Once again the AMC and Ground Commander concurred with the cavalry commander's recommendation, and the assault was commenced.

6. **Staging**

The staging phase of a combat assault enabled the AMC or his representative to assemble all of his assets and conduct his crew briefing. The staging area was always in a secure area and close to the combat area with all aircraft involved using the same staging area. The massing of large numbers of aircraft in one area close to the combat area ran a risk of presenting the enemy with a lucrative target for his long range weapons. The combat assault of LZ HOPE was staged from Khe Sanh on 6 March. 120 lift ships were subjected to incoming 122mm rocket fire prior to launch time. Fortunately all aircraft departed the area without damage. The advantages of this method of staging were an early formation of the flight, insurance that everyone received the same briefing and the erased necessity to refuel the flight prior to completion of the first lift. These factors all aided in reducing confusion in a most difficult phase of airmobile
operations. Possibly the most important advantage of staging close to the combat area was the immediate reaction time of the flight in the commencement of the mission.

7. Pickup Zones

a. Selection

(1) Security

When possible the PZ was located in a secure area to reduce the complexity of the combat assault. On occasions troops to assault were extracted from a hostile environment, as in the case of the assault on LZ LOLO.

(2) Preparation

The PZ’s were chosen and prepared to minimize the length of time the aircraft were required in the PZ to make their pickup of troops.

b. Coordination

When the PZ was a field location, coordination and timing became extremely important. If the aircraft arrived and the troops were not ready, the flight had to either hold in orbit or return to the staging area. This resulted in allowing the enemy to guess our intentions and wasted valuable blade time. When the troops were ready and the aircraft were not, the massed troops became inviting targets for indirect fire attacks by the enemy.

c. Control

It was found advantageous to have a PZ control party. These personnel insured that the troops were broken down into aircraft loads to facilitate orderly and rapid loading of the aircraft. PZ control also informed the AMC and Ground Commander of the number of sorties remaining in the PZ and any problems which arose. This was done on the assault of LZ RANGER and resulted in a smooth operation. The technique was continued for all later operations.

IV-23
8. Flight Routes and Altitudes

a. General

The two major considerations of the enroute phase of the combat assaults during LAMSON 719 were the flight routes and altitudes to be used. Factors to be considered were the deployment of enemy antiaircraft weapons, weather, artillery fires, and the overflying of friendly positions. During LAMSON 719 flight altitude of 4000 feet AGL was found to keep the aircraft out of 12.7mm range. On the major assaults of early March, the late afternoon haze combined with the setting sun made navigation almost impossible for flights to the west. The Xe Pon River was the only navigational aid which proved to be effective. This necessitated all afternoon flight routes to be flown in close proximity to the river. When possible, flight routes passed over fire bases to afford the flights safe havens to be used for precautionary or forced landing areas.

b. Aircraft Control Points

The use of large numbers of lift aircraft broken into multiple flights coupled with the navigational problem and the extremely hostile environment, required extensive use of control points. This permitted the AMC to adjust the flow of aircraft to meet the changing situation.

c. Route Escort

Gunship escort of the flight route was provided by the ARA, cavalry gunships, and escort gunships. These aircraft would follow the lift aircraft's flight route to and from rearm/refuel. Enroute enemy fire was engaged by these aircraft. If their fire support was not sufficient, the flight route was shifted until either airstrikes, TAC air, or artillery or a combination of these had neutralized the enemy fire.
9. Landing Zones

a. Preparation

(1) Airstrikes and TAC air

The preparation of a LZ was not limited to the LZ itself. In the days prior to the assault, airstrikes and TAC air were employed on both preplanned and targets of opportunity detected by the air cavalry reconnaissance. Airstrikes were also used to clear LZ's within the designated areas.

(2) Artillery

On the day of the assault, after fully employing airstrikes and TAC air, tube artillery was fired on the LZ. The artillery preparation was not always used due to range limitations, the rapid execution of the operation, and the requirements for airspace. For example, early in the afternoon of 4 March, the 1st Infantry Division Commander decided to assault LZ without artillery preparation rather than wait until 5 March when the ARVN artillery on LOLO could have been employed.

(3) ARA

When artillery fires were completed, the ARA began their fires. The ARA, under direction of the cavalry unit commander, placed their fire in and around the LZ on known or suspected enemy targets until the lift aircraft arrived.

(4) Escort Gunships

The escort gunships fired suppressive fires along the approach path and around the touchdown point of the lift aircraft. The transition from one type fire to another must be accomplished rapidly to provide continuous fire support in the LZ area.
b. Control

Due to the intense resistance by the enemy, control in the LZ area during LAMSON 719 was more difficult than previously experienced. As a result, control became a more critical consideration. Indirect fire placed on LZ's required rapid unloading of troops. Pockets of intense small arms and antiaircraft fire required strict adherence to prescribed approach and departure paths. Decreased visibility in the LZ areas necessitated the dropping of a smoke grenade in the LZ to mark the touchdown point for the following aircraft. The small size of most LZ's made necessary the landing of lift aircraft one at a time. Even when the landing zones were quite large, the flights would touch down with extended separation to minimize damage to both aircraft and troops during the frequent indirect fire attacks employed by the enemy.

c. Fire Support

(1) Airstrikes, TAC air, and Artillery

While the lift aircraft were assaulting the LZ, the use of fire support was restricted to greater distances from the LZ. Airstrikes, TAC air and artillery all were employed on targets on surrounding terrain or along the flight route in areas where they would not greatly restrict the flow of the assault. Throughout the assault on OBJ HOPE Air Force fire power was employed on the higher ground to the north. It effectively suppressed all antiaircraft targets detected by the air cavalry teams. TAC air was also used during LAMSON 719 to lay smoke screens near the LZ to shield it from direct observation by the enemy.

(2) Employment of smoke by US Air Force

High performance aircraft utilizing CBU bomblets were used extensively throughout LAMSON 719 to deny the enemy visual observation of the helicopters during the critical approach to the departure from the LZ/PZ. A one hour lead time was usually necessary to obtain the coverage desired by the AMC. The bomblets were
very effective and usually accurately delivered. Some problems involving troop safety criteria and timing were encountered. In support of the combat assault of LZ SOPHIA, the requested direction of the screen could not be accommodated so an alternate was selected. After the first pass a slight adjustment was made in direction. The second pass exceeded the troop safety criteria and the mission was aborted. The combat assault of LZ HOPE was initiated ten minutes early because of an indirect fire attack on the staging area. When called upon to deliver early, the smoke aircraft were in the process of airborne refueling. As a result the smoke arrived ten minutes late.

(3) ARA, Cavalry Cobras, and Escort Gunships

The close support of the lift element was provided by ARA, Cavalry gunships, and escort gunships. During the assault on OBJ HOPE, these armed helicopters were employed throughout the entire area. One cavalry troop screened to the north and west and also employed TAC air on targets detected. One cavalry troop screened to the south along the approach path. ARA was in a high orbit over the LZ and employed on targets detected by the cavalry. The UH-1C gunships provided coverage of the valley floor south of the LZ. AH-1G escort gunships provided coverage for the lift aircraft from the release point at SOPHIA to the LZ.

10. Gunship Requirements

a. Demand

In the early stages of LAMSON 719, it became quite apparent that the role of the armed helicopter was vital to the successful accomplishment of the airmobile mission, whether combat assault, extraction, medevac escort, re-supply, or aircrew recovery. Due to the amount of enemy antiaircraft fire throughout the area of operation around LZ's and PZ's, the number of gunships required to provide security for the UH-1H lift aircraft increased significantly. Based on this need, the amount of gunships increased from the normal one light fire team (i.e., 2 gunships) covering up to twenty UH-1H's to approximately one light fire team for every five UH-1H's. This increase created a major control and allocation problem.
b. Control

Initially it was necessary to place one escort gun team leader in charge of all escort guns, and he employed his assets upon command of the AMC. A later innovation was to place the escort gunships under control of the cavalry commander for integration into the fire support effort. This tactic was first used in the assault of LZ LIZ. As more gunship assets became available to the ground force commander, distinct areas of responsibility were assigned. Examples of this were gunship coverage along the flight route with the mission of suppressing enemy fire, gunship coverage from RP to the LZ with primary responsibility to the LZ area. By dividing these responsibilities, the AMC had his assets in position to effectively engage enemy antiaircraft positions along the entire flight route without diverting his escort gunships from the lift aircraft.

11. Resupply Requirements

Considerations which were made during combat assaults also held true for resupply missions. These often developed into mini-combat assaults requiring fire support and a command and control element. Besides those problems normally associated with combat assaults, other problems were encountered during resupply missions. Units were not at the grid coordinates where they were scheduled to be. When aviation support elements requested the ground to display smoke to mark their location, the enemy also employed smoke. Later operations were conducted with one ARVN with a radio on board the aircraft to assist in locating the ground units and help unload supplies. One problem arose from the reluctance of the ARVN to talk on the radio unless their correct callsign was heard. Initially the callsigns used were from the ARVN SOI, and if the US pilot failed to pronounce the callsign properly, he received no response. This was solved by assigning the advisor callsigns, consisting of only letter designations (QY, CFW, etc.) to the ARVN battalions themselves.
F. COMBAT EXTRACTIONS

1. General

Extractions were accomplished of both units on fire bases and units in field locations. It was known that each fire base established would require an extraction. The NVA knew this also and located antiaircraft weapons and mortars in very close proximity to each fire base. These weapons harassed the resupply effort throughout the operation and eventually blocked or impeded attempts at extraction. Friendly forces on the ground were faced with securing the areas surrounding the PZ or fighting their way to another location for pickup. Fire bases occasionally became impediments to the commander unless he was willing to leave the artillery tubes and move. In an airmobile mid-intensity environment an assessment had to be made of the cost of artillery pieces versus the cost of the extraction aircraft and the risk to the air crews. Extraction of units in heavy contact was difficult to plan and costly to execute.

2. Planning

a. Concept

Extractions had an inherent hazard not experienced in the combat assault. The element of surprise was lost. The NVA knew where the aircraft were going and were usually registered on the PZ prior to arrival. HOTEL II provided a good example. All attempts to extract from the fire base itself failed. A successful extraction was predicated upon neutralizing the enemy direct and indirect fire weapons and limiting his observation of the PZ and the aircraft. Detailed planning for this aspect of the extraction was necessary. The integration of supporting fire with the capabilities of the cavalry and the FAC were essential in neutralizing enemy resistance around the PZ to enable the ground unit to break contact and be extracted.

b. Aircraft Requirements

On several extractions complicated by heavy enemy pressure, an accurate troop count could not be obtained by the ARVN ground commander. This resulted in overcommitment and consequent exposure of aircraft. The correct number of aircraft to perform the
mission should be arrived at jointly by the Ground Commander and the AMC in the early planning phase if possible.

c. **Flight Altitudes and Routes**

Primary and alternate flight routes and altitudes to avoid antiaircraft fire and afford good visual navigation became particularly important when the 30-second separation trail formation was selected. If any aircraft became lost, those behind that aircraft were also lost. Flight routes were cleared prior to launch to avoid friendly artillery and airstrikes. The visibility during LAMSON 719 was generally poor and deviation from prescribed flight routes was common and sometimes costly. Flight over the escarpment south of the river at 6000 feet was usually considered safe. Additionally, the safe havens of HOTEL and DELTA were available for emergencies.

d. **Aircraft Load**

The density altitude throughout the area required a standard aircraft cargo load (ACL) of seven troops for extraction. Actually, some aircraft extracted as many as 15 troops. PZ control was difficult throughout the operation.

e. **Identification of Friendly Troops**

Positive identification of friendly troops around the PZ was seldom achieved and the maximum use of TAC air, ARA and escort guns could not be accomplished. Additionally, the hugging tactic of the enemy around the PZ placed them so close to the ARVN elements that accuracy was more important than volume and enemy antiaircraft weapons and small arms fire were never completely eliminated.

3. **Command and Control**

The same command and control techniques described in combat assaults were necessary in combat extractions. On one occasion, an extraction from a PZ in contact just west of DELTA preceded the combat assault into LOLO. An additional command and control aircraft was required to conduct the combat assault.
4. Pickup Zones

a. Locations

Pickup zones were usually fire bases or night defensive positions (NDP's) and the ground troops were generally in contact. Touchdown points were identified by a high visibility panel or smoke.

b. Reconnaissance

The reconnaissance conducted by the cavalry located and neutralized enemy antiaircraft positions. However, the distance between the friendly elements and the enemy around the PZ was so limited that a reconnaissance and screening in depth could not be conducted without taking friendly casualties. Upon the recommendation of the cavalry commander, the final flight route was selected. The exit route recommended was usually the same because of the difficulty in neutralizing enemy fire on two routes.

c. Preparation

As the lift ships neared the release point, they were escorted by additional gunships into the PZ. Suppression below and around the flight path was conducted by the escort guns while ARA AH-1G's, after completing their preparation, circled overhead for on-call fire support. During the extraction phase, the supporting fires were violent and continuous, denying the enemy access to his weapons positions.

d. Special Characteristics

Extractions of troops in contact began early in the operation. The extractions of both LZ RANGER and FB HOTEL II were conducted during periods of heavy contact. The aircraft were forced to come directly into a ground combat environment while in the PZ. Combat extractions throughout LAMSON 719 were characterized by similar adversities.
e. **Downed Crew Extractions**

Downed crew extraction aircraft followed their flight but remained at altitude.

5. **Fire Support**

The competition for airspace required that a geographical area of responsibility be prescribed for fire support control. It consisted of a 1000 meter zone around the PZ where permission to fire could be granted only by the Ground Commander. Areas were assigned to each fire support system (TAC air, ARA and escort guns) for suppression and destruction. A separate area was designated for screening by the cavalry, and on-call TAC air smoke missions were planned by the AMC to screen the most vulnerable flank. A smoke screen was used during the extraction of the 4th Bn, 1st Regt, 1st ARVN Inf Div. The CBU smoke exceeded troop safety limits and was immediately terminated by the FAC. When hard targets beyond the capability of the gunships were discovered, the gunships would mark the target for the FAC and move to another area. After the extraction was completed, control of all fire support means was transferred to the cavalry commander. This was done to inflict as much damage as possible to the enemy. The lift aircraft returned by the same route unless it was interdicted by antiaircraft fire or weather.