PART I: Prelude to Air Assault

J. E. Furlong

It is indeed important to understand what happened before, during and after the most significant airmobile battle fought in the Vietnam War—LAMSON 719. This 1971 battle is a milestone in the evolution of Army Aviation air assault tactics because:

- LAMSON 719 is the only historical example of contemporary Army Aviation operating in a mid-intensity conflict.
- During LAMSON 719 more helicopters received combat damage and were shot down than during any other comparable time in the Vietnam War.
- The combat assault on Tchepone in Laos involved more helicopters in a single lift than any previous combat air assault in Army Aviation history.
- Two of the blackest days in Army Aviation history occurred during the 45-day operation.
- LAMSON 719 is the best contemporary example of AH-1 Cobra gunships contesting enemy armor in combat.

Lessons learned from LAMSON 719 contribute to the current and developing evolution of Army Aviation tactical doctrine more than experience in any other operation has in the past 20 years. This article, next month's Part II: "The Battle," and August's Part III: "Reflections and Values," clearly show that Army Aviation has evolved into a most important member of the combat and, of course, the maneuver arms of the United States Army.
The 3-part series reveals that Army Aviation is a unique organization that packs great firepower and provides extensive mobility on the air-land battlefield. It depicts Army Aviation as a young and dynamic combat force building a precious heritage as it flies above, and among, the best!

Vietnam-era aviators confirm that most of the current air-land battle doctrine we read about is a historical summary and refinement of techniques employed and tested in the Republic of Vietnam. Army Aviation has not reinvented the wheel in the past 10 years. The experiences in our history offer more insights than you might think.

Part I of this article is a summary of the pertinent history of the Vietnam War through the end of 1970. It describes typical types of missions and combat operations conducted by Army Aviation.

Next month Part II will describe the LAMSON 719 operations order, the operation itself, the battle statistics, the afteraction reports and the lessons learned. Finally, Part III concludes with reflections and values of lessons learned not only from LAMSON 719, but also from Army Aviation's involvement in Vietnam from the beginning.

Based on invited lectures that I've given to aviation officer advanced course classes at the Aviation Center, Ft. Rucker, AL, and to others elsewhere, it is obvious to me that many people in Army Aviation today know little about Vietnam. We're already well into the next generation of people who were too young to have cogent memories of the Vietnam days. Also, there are only a few capsular references (see Part III in August) that I would recommend for obtaining additional background on Vietnam. For those reasons, I begin by giving more detail than may seem necessary to provide a contextual background around LAMSON 719. But, the successes, and more importantly, the failures of the operation are better understood in context with a complete LAMSON 719 background. This article describes aspects of the Vietnam War that are critical in understanding it but, too often, are deemphasized or overlooked in most references about the war. For those who already know something about the war in Vietnam, the article can widen the perspective gotten from other sources and references.

A Troubled History

Vietnam as a country does not have an impressive history of independence. It was briefly occupied by the Japanese during World War II, but for more than 50 years it was colonized by the French.

The French were defeated by the Communist Viet Minh at Dien Bien Phu in 1954. Because of sharply different political philosophies, Vietnam was divided by a Geneva Accord into a non-Communist state in the south, and a Communist-controlled state in the north. The Communists, or Viet Minh,
represented only a small percentage of the people, but they had the only force able to effectively fight the French. For about a year after the French defeat, the population was able to move freely across the partition line. More than one million anti-Communists streamed south while only a few thousand Vietnamese moved to the north.

The Geneva Accords were supposed to be temporary with a reunification to occur after elections scheduled for 1956; however, hostilities between the Communists, Nationalists and Buddhists prevented any election from ever occurring. The partition line soon became a closed demilitarized zone. After this, a Communist revolution (directed by North Vietnam) was started in South Vietnam by trained combat veterans of the Viet Minh army that had fought the French. These soldiers, and those enlisted from South Vietnam to fight with them, were known as the Viet Cong.

By 1959 the Viet Cong in South Vietnam were being directly assisted by units of the regular North Vietnamese Army. The U.S. Government, as part of the Southeast Asia Treaty Organization alliance, in conjunction with other countries including Australia and the Republic of Korea, sent an increased number of advisors under Military Assistance Command Vietnam (MACV) control to train and assist the South Vietnamese. MACV actually came into being in 1962 as a reorganization of an earlier military assistance and advisory group.

In 1960 there were fewer than 1,000 military advisors in Vietnam. President John F. Kennedy had been "burned" by the defeat at the Bay of Pigs in Cuba in 1961 and didn't want to see another country fall to Communism. He authorized and increased military presence which grew to 3,000 troops in 1961. President Kennedy was assassinated in November 1963, but the mandate was set and continued by President Lyndon B. Johnson and Secretary of Defense Robert McNamara, to increase the American presence as necessary to prevent a Communist takeover. In 1964, the U.S. Congress adopted the Gulf of Tonkin Resolution, authorizing the President to take whatever measures he considered necessary to repel attacks on American forces and to prevent further aggression in Vietnam.

By 1964, there were about 23,000 American troops in South Vietnam. In 1965, the emphasis on the war shifted. MACV became more combat operational and the first American combat division was sent to South Vietnam in the summer of 1965. The 1st Cavalry Division (Airborne) deployed and engaged the enemy with the first extensive and sustained use of helicopters (primarily the UH-1 Huey) in combat. Helicopters were employed earlier in Vietnam and, in fact, were used during the Korean War on a lesser scale for movement of troops, re-supply and aeromedical evacuation.

The development of Army Aviation as we know it today began with the deployment of the 1st Cav. Clearly, the airmobile and air assault concepts of the 1st Cavalry Division in Vietnam demonstrated for the first time in combat the enormous flexibility and utility of helicopters on the battlefield. On countless occasions, from the battle at Ia Drang Valley in 1965 to the standdowns in 1972, Army Aviation proved to be of paramount importance in waging war in the defense of South Vietnam.

Through the 1960s, as the United States increased its involvement and support to South Vietnam, Russia increased its military support to North Vietnam, continually and several times at higher comparable monetary levels than the support provided by the United States. American strength reached its peak in 1968 at a level of about 550,000 troops. From 1969 on (through President Richard M. Nixon's administration) troop strength dramatically declined until in April 1972 there were fewer than 70,000 American troops in Vietnam. Operational control in MACV returned to a more advisory rather than direct combat role.

An Effort At "Vietnamization"

During the years of American presence in Vietnam, MACV was responsible for a program called "Vietnamization" (term coined in 1969). It sought to train the Vietnamese people about government, agriculture, industrialization, education and soldiering. The early plan included organizing an army and local reaction forces so that they would be able themselves to conduct the war against the Communists. To do so, an effort was made to train South Vietnamese soldiers in the maintenance and operation of military equipment to include weapons, artillery, tanks and helicopters. Many Vietnamese also were trained in the United States.

Unfortunately, most Vietnamese were not well educated, their technical understanding was primitive, and there was a serious language barrier, all of which made interactions, training and operations difficult and frustrating for many Americans. Progress was slow and when the U.S. Army and Marine Corps entered the war with direct combat missions, Vietnamization was further curtailed under the notion that the Communists would either back off or be quickly defeated by the large show of American force: Thus, a well-trained Vietnamese force would not be necessary. This was a fatal decision that resulted in several years being lost in developing greater auton...
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omy for the people and experience for the Vietnamese Army.

In late 1967 and in 1968, the U.S. Embassy helped MACV rejuvenate the Vietnamization effort. In 1969, MACV was also bolstered in advisory troop strength severalfold to further accelerate the formalized Vietnamization program. Many more Vietnamese were then brought to the United States to learn how to fly helicopters, drive tanks and maintain equipment. Finally, it was obvious that the days of a U.S. presence in Vietnam were numbered. The Vietnamese were going to have to learn to fight the war on their own. LAMSON 719 became the first serious test of the Vietnamization of ground combat operations because American ground troops or advisors would not be allowed to set foot into Laos where the operation was to take place.

Throughout the war in Vietnam the Communists rarely showed concern for their number of combat losses. Human wave attacks were not uncommon and generally accounted for some of the few minor battlefield victories the Communists enjoyed up through 1972. However, it is not lofty or exaggerated to say that from 1961 to 1972, except for LAMSON 719 (which was more like a draw), the American and South Vietnamese decisively won every major battle of the war to include the most well-known battle, the Tet Offensive of 1968.

The Tet Offensive and LAMSON 719 stand out as two different types of battles that were very distinguishable from the way the war was otherwise conducted. The Tet Offensive involved more than 100,000 North Vietnamese Army and Viet Cong troops. It was launched on 30 and 31 January 1968, as an all-out surprise assault, primarily against well-defended military compounds in more than 115 different urban areas throughout the country. The battle was called the "Tet Offensive," named after the lunar New Year in Vietnam which is the Vietnamese people's most celebrated and important holiday.

Before the offensive, the Viet Cong had announced a 7-day truce over the holiday to further catch U.S. and South Vietnam troops off guard. The belief by the Communists at the time was that occupation of the major urban areas would generate a popular uprising among the people, mass defections from the South Vietnamese Army and the rapid collapse of the government. However, in just a few days, except for small sections in Saigon and Hue, the offensive was totally crushed. Communist losses ranged from 35,000 to 50,000 killed with 3,000 South Vietnamese killed, 1,500 Americans killed and more than 10,000 civilians killed in crossfires or murdered by occupying Communist forces.

After Tet, the Viet Cong were totally eliminated as an effective fighting force. Tet was a decisive victory for South Vietnam in several respects. It destroyed any credibility for the Communists with the South Vietnamese people and it greatly bolstered the South Vietnamese government and Army. But, the most far-reaching outcome of the Tet Offensive was a political one in the United States. As the battles unfolded, too many American journalists consistently distorted the events and highlighted the horrors of war. Everything the Communists did was embellished by those members of the media, while the South Vietnamese and American military were treated with derision and cynicism, as though they reported only fabrications.

The media's reflections of the war, coupled with the U.S. Government's failure to effectively communicate the purpose and objectives of the war, spread disillu-
sionment nationwide. That the Communists could launch such an offensive, even though it was decisively crushed, was a shock to the American public. Thus, the Tet Offensive of 1968 marked the beginning of disengagement by the United States from a war in which we were unbeatable on the battle-field, but which we could never win—at least probably not without a direct invasion of North Vietnam.

Levels of Conflict

It's important to define and describe the three levels of conflict found in combat:

• A high-intensity conflict is a war between two or more nations and their allies in which the combatants employ the most modern technology and resources of their military organizations to include nuclear, chemical and biological weapons. Decisive engagements between large numbers of troops occur with some frequency over a broad geographic or even global expanse. The direct combatants in a high-intensity conflict have generally committed the majority of their national resources and gross national product toward the war effort. World Wars I and II are examples of high-intensity conflicts.

• A mid-intensity conflict is a war between two or more nations and their allies in which the combatants employ their most modern military technology and military resources short of nuclear, chemical and biological weapons. These conflicts are for limited objectives under definitive policy limitations on the extent of destructive power that can be employed, or the extent of a geographic area that might be involved. Decisive engagements between large numbers of troops will occur at least occasionally at this level. Only a part of a nation's assets would be directed to the war and the period would not be as pro-

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tracted as in a high-intensity conflict. Examples of mid-intensity conflict include the Korean War and the 1967 and 1973 Arab-Israeli Mideast Wars.

- A low-intensity conflict is a limited politico-military struggle to achieve political, social, economic or psychological objectives. It can be quite protracted and range from economic and political pressure all the way through terrorism and insurgency. Low-intensity conflicts are generally confined to a geographic area and constrained on the use of weaponry, tactics and levels of violence. Low-intensity conflicts include Beirut, Grenada, Nicaragua, Afghanistan and Vietnam during the United States involvement. Of course, the list is depressingly long with each conflict having its own unique features.

Although three levels of conflict have been conveniently defined, it should be realized that these conflict categories actually occur along a loosely defined continuum. Generally, most wars or conflicts do not remain at one level, but tend to escalate or deescalate over time. Each battle or period within a war can be defined in its level of intensity as well. Countless examples could be given of the escalations and deescalations of conflict in any war. However, where the Vietnam War is concerned, during the United States involvement, LAMSON 719 stands out as the only clear example of a mid-intensity conflict or battle.

LAMSON 719 lasted 45 days and large numbers of troops (more than 50,000 total) became decisively engaged. The significance of LAMSON 719 has been greatly overlooked in contemporary U.S. military history, and in Army Aviation in particular. From the introduction of the UH-1 and from the 1965 deployment of the 1st Cavalry Division (Airmobile) to Vietnam to the present, LAMSON 719 also is the best contemporary example of Army Aviation in a “deep attack” and as a combat and maneuver arm on a combined arms operation in combat. Both of these will be defined and discussed next month in Part II, “The Battle.”

Some people feel that the Tet Offensive of 1968 was a mid-intensity battle because it was a significant escalation of the war and a large number of troops were decisively engaged. Granted, from an infantry standpoint, the battles to retake Hue and the Cholon district in Saigon during Tet may be examples of a mid-intensity level but not where Army Aviation is concerned.

While Army Aviation was involved in Tet, it was not employed to the degree that it was in LAMSON 719. Most of the Tet battles were fought by South Vietnamese, U.S. Marine Corps and U.S. Army ground combat units. Remember, Tet took place in more than 115 urban areas and was fought more like a multitude of house-to-house skirmishes and small unit actions. Most of the enemy attacks were defeated within 2 days; only the Hue and Saigon battle areas were active for more than 1 week (about 26 days in Hue). Actually, the Tet Offensive is best suited as an example of a military operation on urbanized terrain conflict, but such an article will have to wait until another time.

Low-Intensity Conflict in Vietnam

The general and most common type of engagements in Vietnam were termed “small unit actions” which mainly involved company-size units or battalion-size operations. Throughout the war the Communists primarily operated in
small units within South Vietnam. This was especially true after the Tet Offensive of 1968 when the Viet Cong were greatly depleted. These units or cells were frequently composed of only six troops with perhaps only three of them carrying weapons. The primary missions of these cells involved harassment and temporary interdiction, usually without becoming decisively engaged. In fact, the Communists were so firm about this tactic in some regions that, as captured documents reveal, a ranking person could be shot if a superior officer encountered a unit in size greater than six that was not on a specific operation. Larger units would be formed as necessary for an operation, but after the operation the unit would disperse into small unit cells once again.

Against the South Vietnamese, common tactics of the Communist forces included murder, kidnapping, confiscation of supplies, impressment and other acts of terrorism. The most frequent targets were the "elders" in a village because they represented the local governing body and, by culture, received the highest respect and fear for loss of their lives. It was not uncommon for the Communists to kidnap a ranking ancestor then impress the younger of the family members, sometimes even into suicide missions as "sappers" under the threat of the kidnapped ancestor being "cock-a-dowed" (phonetic pronunciation). "Cock-a-dow" is Vietnamese for being decapitated which, according to the Vietnamese culture, would separate that ancestor's soul to wander aimlessly in the afterlife without ascending in the family order.

Sapper operations involved either soldiers or impressed civilians sneaking through tunnels or under barbed wire at night to enter a military compound with satchel charges and grenades. Once inside, the sappers would plant or throw the charges to blow up as many people and as much equipment as possible before being killed or blowing themselves up. The main operations the Communists conducted against Americans included hit-and-run skirmishes or ambushes, sapper attacks and the setting of booby traps.

In the early phase of American involvement in Vietnam, too often when a village was occupied by the Communists or thought to be sympathetic to them, the U.S. troops would literally blast the enemy from a village or burn it to the ground. This usually caused more casualties and damage to the civilians than anything else. However, after the Tet Offensive, and the My Lai massacre in 1968, a greater effort was made toward the pacification of the people.

As another part of the Vietnamization program, civilians living in the most rural and mountainous areas were encouraged to resettle in designated pacification areas, usually in the most defendable geographic location in a regional province. From that location the people were guaranteed protection against the Communists, a place to live, land for farming, health care, education, etc. Everyone was still to retain ownership of their ancestral property in the unpacified areas and would be able to return when the war was over. Anyone choosing to remain in the unpacified areas was given no guarantee of security or other benefits.

To a significant degree, the pacification program run by MACV was successful. Even many of the Montagnards or "Mountainyards," as they were sometimes called, chose to cooperate with the pacification program. Montagnards are a primitive, pigmy-like, aboriginal population of ethnic tribesmen who inhabited areas of the central and northern mountain ranges in South Vietnam. They were excellent, vicious fighters against the Communists who routinely impressed the Montagnard women, children and elderly tribesmen whenever they could capture them.

To provide greater security to the people, many of the pacification areas were made off limits to U.S. military combat personnel. In addi-
tion, these areas and all other established populated areas became designated as control fire zones (CFZs). All military, to include aviation and artillery personnel, were restricted from firing into a CFZ without MACV or provincial civilian approval. If a helicopter was flying in a CFZ and received enemy fire, the gunner had to have a positive identification of the enemy, without any endangerment to the civilian population, in order to return fire.

On helicopter combat assaults the local province chief or a MACV officer would be required to ride in the command and control aircraft to make the decision about whether or not the gunships and troop carrying helicopters could "go hot" if enemy fire were received. Hence, as U.S. involvement continued into 1970, military operations became more and more restricted. While CFZs were occasionally frustrating, they were probably the best way to conduct operations in populated areas. Of course, there were plenty of free fire zones that had no restrictions on return of fire.

Between 1965 and 1970 about 11 percent of all deaths and 18 percent of all wounds for U.S. combat troops were caused by booby traps and mines. For the Communists to avoid decisive engagements and just peck away at the U.S. troops became increasingly frustrating, and a serious no-win situation. Clearly, the only way to defeat the enemy would be to take the battle farther westward, away from the population centers and into the Communist strongholds in the mountains and plains along the Cambodian and Laotian borders. There, the enemy could also be found in greater numbers.

Fire Support Bases and Airmobility

Conventional military operations in Vietnam were simply not possible for several reasons. Aside from the Communist tactics of ambush and terrorism, and the absence of "front lines," the topography and climate profoundly influenced the timing and types of operations that could be conducted. The climate is primarily tropical and quite wet especially during the summer monsoon season when military activity on both sides was significantly reduced.

The southern part of South Vietnam is called the Mekong Delta, which is flat, swampy and covered with rice paddies. Delta areas were generally no-go terrain for military vehicles and tough going for soldiers on foot. "Riverine operations" by shallow-draft gunboats were common in the Delta. The capital city, Saigon, is located north of the Delta in an area known as the Piedmont, which consists of rolling hills and plains. Armor operations were most frequent in this area and along the coastal plain.

The coastal plain is a narrow strip of beaches, river valleys, marshlands and rice paddies along the length of South Vietnam. The coastal plain is the area of highest population and commerce, and was the location of most major U.S. bases and logistics centers.

The great majority of the remaining northern half of South Vietnam is composed of "triple canopy" jungle and mountains, some higher than 5,000 feet. Triple canopy jungle comprises three dense layers of foliage reaching as high as 15 feet, 75 feet and 150 feet from each layer of bushes and trees. The only effective type of operations that could be conducted in this terrain was airmobile assaults by helicopters with small units of infantry and artillery.

Operations to interdict into enemy-held strongholds which were usually in the mountains, employed the fire support base (FSB) concept. The typical combat operation involved the establishment of a self-contained, self-defended artillery base, usually on top of a hill or mountain, from which infantry "search and destroy" operations could be supported. The FSB concept reflected a universal truth in contemporary infantry combat: Never conduct operations beyond the range of artillery support. FSBs provided rapid, reliable, continuously available fire support, which was especially important when weather conditions precluded air support. By their locations, most FSBs provided additional advantages for communications relay, observation and control of high ground.

A typical fire support base would consist of a battery of 105 mm or 155 mm howitzers, an infantry company, four 81 mm mortars from an infantry battalion, and communications, administrative, medical and special operations personnel (K-9 teams, psychological operations teams, sniper teams with night scopes, etc.). FSBs were usually placed within range of the supporting fire of another FSB. Each FSB generally supported three or more infantry companies in conducting operations around the base.

The development of the fire support base concept was an innovation that went hand-in-hand with the increased flexibility and mobility made available by the use of the Vietnam workhorse—the helicopter. Many FSBs had no access for resupply and were wholly reliant on helicopters for support. There were generally few roads, and when there were roads they were usually not secure. Remember, this was a war without front lines against an enemy that favored ambushes and terrorism. Clearly, the helicopter made possible the FSB concept. Airmobility and air assault tactics in Vietnam enabled the U.S. Army for the first time to move large forces to specific locations rapidly and on short notice. FSBs allowed the Army to progressively strike deeper into enemy-held terrain without the loss of superior firepower.
Army Aviation Missions and Units

Much could be written about the missions and units of Army Aviation in Vietnam, but only a short review limited to rotary wing operations is necessary here. After 1965, the major types of Army helicopters employed in Vietnam included: The AH-1 Cobra gunship, the OH-6 Cayuse and OH-58 Kiowa scout and division artillery helicopters, and UH-1C, D and H series helicopters.

Unit sizes and types varied considerably among divisions and the four corps areas in South Vietnam. They consisted of platoons, detachments, teams, companies, batteries, squadrons, battalions and groups. At the height of U.S. involvement there were more than 5,000 Army aircraft in Vietnam and it is estimated that more than 13,000 Army aircraft cycled through Vietnam between 1961 and 1972. A few of the more typical types of aviation units and their missions were:

- **Aeromedical Evacuation (Dustoff) Units.** At the peak of U.S. troop strength in Vietnam there were 116 UH-1 helicopter ambulances in service. Between 1965 and 1969 alone some 373,000 military and civilian casualties were evacuated by Dustoff helicopters. While many casualties were conveniently evacuated by other aircraft in the vicinity, the lion’s share was han-
Died by Dustoff units on a 24-hour basis in all weather conditions.

- Cargo Helicopter Units. An aviation battalion in support of a division consisted of two cargo helicopter companies of CH-47 Chinooks. Their missions included troop and cargo transport. Cargo helicopters played an integral role in the establishment and resupply of fire support bases primarily by delivering artillery pieces, ammunition, food, and fuel.

- Assault Helicopter Companies (AHCs). Clearly, the workhorses of the Vietnam War were the UH-1 Hueys of assault helicopter companies. AHC missions included resupply ("ash and trash"), combat assaults, psychological operations, special forces and long range reconnaissance patrol insertions, electronic surveillance, etc. The typical AHC consisted of 24 to 27 UH-1s in three Platoons—two lift Platoons of UH-1H "slicks" aircraft and one gun Platoon of UH-1Cs.

- Air Cavalry (Cav) Units. Combat divisions in Vietnam were usually supported by air cav squadrons. Each squadron consisted of three air cav troops and one ground cav troop. An air cav troop contained 27 helicopters, 9 to 10 AH-1G Cobras or UH-1C gunships, 10 to 11 OH-6 or OH-58 scouts and 7 UH-1s. The typical mission of a cav unit involved coordinating with a combat brigade for reconnaissance missions and bomb damage assessment in specified grid squares. In Laos during LAMSON 719, a recon team often consisted of one low AH-1 gunship and three high AH-1 gunships on search and destroy missions.

- Aerial Rocket Artillery (ARA) Units. These units were designated as batteries and had a total of 12 AH-1G "heavy hog" aircraft. Each had rocket pods capable of carrying up to 76 rockets. ARA units worked directly for a division artillery and received fire missions the same way as did ground artillery. The aircraft were usually used to provide close air support to ground units and to assist assault helicopter companies on combat assaults. During LAMSON 719 most ARA teams consisted of three aircraft with the additional mission of seeking targets of opportunity.

Low level flying in Vietnam was strictly prohibited and viewed as unsafe by most units up to the standdowns in 1972. Aircraft were supposed to fly at 1,500 feet above ground level in Vietnam and at 3,000 feet above ground level in Laos and Cambodia. Tight circling approaches and climbouts were typical for getting into and out of landing zones (LZs).

Combat assaults also conformed to the altitude restrictions and usually were conducted in tight formations of UH-1s, sometimes with as many as 10 aircraft in one lift. Most combat assaults, however, were divided into multiflts with about six aircraft per lift. Generally, the more aircraft involved, the more normal were approaches and departures of flights, although terrain and LZ factors largely determined the assault tactics.

Each combat assault had at least one team of UH-1C gunships that would make a racetrack pattern on one side of the flight around the LZ, at an altitude of 500 to 1,000 feet, to provide gun cover if needed. Occasionally, a smoke ship would be used to provide additional cover.

Combat assault tactics mentioned above were effective in Vietnam when a unit was usually only sporadically engaged, primarily with just small arms fire. However, during LAMSON 719, as we shall see, such tactics were disastrous. Before the end of LAMSON 719, most aviators routinely flew low level. Combat assaults were conducted by single ship landings with 30-second separations, and gunships made runs from higher altitudes. The LAMSON 719 battle probably did more than any other operation in the history of the Vietnam War to revert Army Aviation doctrine to the development of nap-of-the-earth flight tactics, and to move away from close formation combat assaults.

The Ho Chi Minh Trail

Through the 1960s resupply and reinforcement of Communist troops in South Vietnam were accomplished via two primary routes. The most efficient route to resupply the southern half of South Vietnam was by cargo ship to the port of
Sihanoukville (Kompong Som) in Cambodia. Prince Norodom Sihanouk, the Cambodian ruler, allowed the North Vietnamese to use the port, and to construct base areas and logistical facilities in Cambodia near the South Vietnam border. This was stopped in March 1970 when Prince Sihanouk was overthrown by an anti-Communist government that ordered North Vietnam out of the country and sought U.S. support.

In May and June 1970, U.S. and South Vietnamese forces launched a major offensive into the Communist sanctuaries in Cambodia. The offensive was a major success. Huge amounts of enemy supplies, equipment and bases were destroyed along with a serious loss of Communist troop strength. Coupled with the major loss of troops during the Tet Offensive, the North Vietnamese were severely reduced as a combat effective force in the southern IV Corps region of South Vietnam for years to come.

The second and most important route for the movement of supplies and reinforcements from North Vietnam to the south was the Ho Chi Minh Trail, named after the North Vietnamese leader. By 1970, it had been developed into an extensive, well-organized network of hundreds of miles of roads and trails running south in a wide corridor along the border between Laos and Vietnam into Cambodia. With the loss of the port at Sihanoukville, all supplies and reinforcements had to be moved down the Ho Chi Minh Trail. Not only was this a long, arduous trip, but for some time the trail network also was continually bomed by the Air Force, Navy and Marines. Despite these problems, the North Vietnamese had to dramatically increase activity on the Ho Chi Minh Trail to try to reconstitute their forces in the south.

The Americans and South Vietnamese had turned the war around and wanted to continue the offensive. So, in late 1970 an invasion of Laos, into the heart of the Ho Chi Minh Trail, was considered. An operations plan called LAMSON 719 was drawn up. The principal objectives of LAMSON 719 were to interdict and disrupt the flow of enemy troops and supplies along the Ho Chi Minh Trail in Laos that were coming into South Vietnam.

Operation LAMSON 719 would be the first major test of the Vietnamization effort. It would buy more time and safety for the continued withdrawal of U.S. troops by further damaging North Vietnam's ability to launch any offensives. And, it hopefully would cripple North Vietnam's strategy for combat operations and enhance peace negotiations, which were already underway.

Next month: LAMSON 719, Part II: "The Battle."
Part II
Against All Odds
Theoretical Aspects of Microburst Flight

By
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Commander Towers' article on microbursts is being presented in three parts. In Part I in the May issue of Aviation Digest, he discusses weather conditions that spawn this most lethal of the downburst family and specific meteorological phenomena to look for. Commander Towers describes the crash of a massive L-1011 airliner in Texas to demonstrate what microburst-induced windshear can do to an aircraft, particularly during the vulnerable takeoff and approach stages of flight. He stresses the need for better understanding and awareness of microbursts by flight crews. Such knowledge is important not only for their own protection, but because of the importance of warning other aircraft of impending danger from this fast-forming weather phenomenon.

In Part II, Commander Towers presents a fundamental aerodynamic explanation of microbursts. In Part III, to be published in July, Commander Towers provides some techniques to control flightpath direction of an aircraft caught in extreme microburst conditions.

Are microbursts and microburst-induced windshear a danger to Army aircraft, or are they a problem only for larger aircraft that operate in a wider variety of weather conditions? While the consequences are more likely to be catastrophic for large aircraft and more lives are at stake, any aircraft can fall victim to a microburst.

In April of this year, an Army U-21 was approaching Atlanta International Airport. The tower reported windshear, but the aircraft was already on short final and committed to touchdown. It encountered severe windshear, causing it to touch down with the left wing low, allowing the propeller blades of the left engine to hit the ground. Fortunately, in this mishap the only damage was to the propeller blades.

The more you know about microbursts, the safer you will be. You need to know the conditions in which they are most likely to occur, what happens to an aircraft when it encounters a microburst, and what to do to survive. And there’s something else, your report of a microburst might be the difference in whether someone else survives—or doesn’t.

Aspects of microburst flight

Now that you’re familiar with the basic nature of microbursts and have some specific meteorological phenomena to look for, let’s look at how a microburst can affect an aircraft during flight.

A microburst encounter is extremely dangerous during the vulnerable takeoff and approach because of the aircraft’s limited aerodynamic capability and its proximity to the ground.

To fully understand the aerodynamic effects of an encounter, we would need complex equations of

Figure 4 depicts the four forces of acceleration acting on an aircraft in flight. During microburst penetration, these forces can become unfavorably unbalanced due to a transitory reduction in lift produced by an angular shift in the relative wind and a reduction in airstream velocity. The result is an adversely altered flight profile as the aircraft seeks an equilibrium condition.
LAST MONTH "Part I: Prelude To Air Assault" presented a review of the history of the Vietnam War leading up to LAMSON 719, the most significant airmobile/air assault battle of the war, and the only historical example of contemporary Army Aviation operating in a mid-intensity conflict. Part I defined the levels of conflict. It also described Army Aviation missions and units, concepts of fire support bases, and airmobility in the Republic of Vietnam.

Part II describes the immediate events leading up to LAMSON 719, the operations order, the battle itself and the battle statistics. Next month, Part III will conclude with a review of battle statistics and discuss some reflections and values of lessons learned from LAMSON 719 and from the

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1 Going into the Vietnam War, “airmobile” was used to describe Army Aviation helicopter operations. As helicopter tactics emerged and were refined, armed helicopters became better and better equipped to attack the enemy with gunships and to supply and carry troops in transport helicopters into the attack. Air assault then became a term that meshes together airmobile operations with the ever-increasing development and refinement of gunships (firepower) and troop carrying helicopters in air assaults (mobility).

2 Several South Vietnamese operations were named “LAMSON” after the birthplace of a Vietnamese hero who led an army to expel the Chinese from Vietnam in the 15th Century. The use of “719” signifies the year “1971” and the battle area along Route 9.
The Ho Chi Minh Trail (Figures 1 and 2)

After North Vietnam lost the use of the resupply port at Kompong Som in Cambodia in 1970, all supplies and reinforcements had to be brought down the Ho Chi Minh Trail through Laos. With the successful offensive of U.S. and South Vietnamese troops into Cambodia, also in 1970, the North Vietnamese Army (NVA) had to dramatically increase activity on the Ho Chi Minh Trail to try to reconstitute their forces in the south.

Even though the Ho Chi Minh Trail network had been continually bombed for years, by late 1970 the Communist supply system had been greatly improved. The trail system spread out over Laos like a spider web of between 3,500 to 8,000 miles of roads and trails. More than 150,000 Communist volunteers, soldiers and forced laborers built and maintained the trail system. During this time some 5,000 to 14,000 trucks traveled along the trail network usually at night to avoid detection. The North Vietnamese even had a 4-inch fuel pipeline that ran from North Vietnam as far south as the A Shau Valley.

The trail system was divided into command centers, transshipment points, base areas and way stations which were called "binh trams." Each binh tram operated as a complete logistical center with its own area of responsibility. Binh trams had medical, engineering, storage, transportation and maintenance support as well as infantry and antiaircraft troops to provide security.

The Ho Chi Minh Trail was further divided into three routes. Trucks only carried heavy supplies and went on one route. Light equipment and supplies were carried by people, bicycles and animals on another route. Combat troops marched on foot on still another route, often in troop strengths as high as 600 people. It could take foot soldiers up to 100 days to reach their destinations in South Vietnam. Depending on the type of route, each binh tram was located a day's movement apart. The two largest Communist base areas found along the Ho Chi Minh Trail were designated "604" and "611": These became the principal targets of the LAMSON 719 operation.

The Laotian panhandle experiences two seasons each year. Most supplies were moved along the Ho Chi Minh Trail in the dry season from October to March. For the rest of the year monsoon rains severely limited traffic.

All of the factors of season, troop and supply buildup on the Ho Chi Minh Trail, and willingness to incur into Communist territory, as demonstrated by the U.S. / South Vietnamese Cambodian offensive, were common knowledge to both sides. The Communists expected an attack into Laos. But, rather than abandon their base areas and supplies to avoid a decisive defeat, as they did earlier in Cambodia, the Communists upgraded their defenses and troop strength to stand and fight. By the end of 1970, an estimated 18,000 additional combat troops, including 20 antiaircraft battalions, were sent to Laos to reinforce base areas 604 and 611. These units were equipped with several hundred 12.7 mm (50 caliber) and 14.5 mm antiaircraft guns; 23 mm cannons; and 37 mm, 57 mm, 85 mm and 100 mm antiaircraft assets among an estimated 3,000 prepared emplacements over the Laotian panhandle.

In the mountains and jungles of Laos there were few sites suitable as helicopter landing zones (LZs). The North Vietnamese triangulated these clearings and much of the high ground with antiaircraft weapons, and preregistered their mortars and artillery to zero in on the potential LZs. By the end of 1970, North Vietnam had three infantry divisions, two artillery regiments, and one armor regiment in the 604/611 base areas, with eight additional regiments available within 2 weeks as reinforcements from other areas.

The Americans and South Vietnamese were alarmed by the serious buildup of activity along the Ho Chi Minh Trail. Intelligence reports indicated that the North Vietnamese were planning offensives against Cambodia and several provinces of South Vietnam at the end of the dry season. A preemptive strike was tempting and a risk worth taking. The South Vietnamese and Americans had turned the war around and were on the offensive. In December 1970 the U.S. proposed an offensive which was quickly approved by the South Vietnamese. Joint planning for LAMSON 719 began in January 1971 with barely a month to work out operations plans and to prepare units.
The principal objectives of LAMSON 719 were to interdict and disrupt the flow of enemy troops and supplies into South Vietnam along the Ho Chi Minh Trail in Laos. LAMSON 719 would be the first major test of the Vietnamization effort. No American ground combat troops or advisors would accompany the Army of the Republic of Vietnam (ARVN) in the attack against the Ho Chi Minh Trail. LAMSON 719 would be the greatest test of air mobility/air assault and fire support base (FSB) concepts. It would hopefully cripple North Vietnam's ability to launch any offensives and buy more time and safety for the continued withdrawal of U.S. troops. And, hopefully, it would enhance peace negotiations which were already underway.

LAMSON 719 Operations Plan.
The operations plan proposed four phases.

Phase I called "Dewey Canyon II," would be a U.S. operation to reopen the base at Khe Sanh and clear Route 9 up to the Laotian border.²

Phase II would be an ARVN infantry and armor attack down Route 9, with northern and southern attacks to establish FSB protection on the flanks. The Phase II objective was the town of Tchepone, some 40 kilometers or nearly 25 miles west into Laos. The operational area was 10 to 20 miles wide from north to south, closing in on Tchepone.

Phase III would be the exploitation phase when ARVN troops would fan out to conduct search and destroy operations against enemy troops and bases.

Phase IV involved the orderly withdrawal of ARVN troops from Laos. The operation was to last up to 90 days or until the onset of the rainy season.

²Interestingly, it was during White House discussions on LAMSON 719 that President Richard M. Nixon first had voice-activated recording equipment installed in the Oval Office to record the history of his administration. Ironically, this led to his downfall by resignation and, to a large degree, the downfall of South Vietnam in 1975 when Congress withdrew support to South Vietnam and President Nixon was powerless to react to the North Vietnamese invasion.

³The Vietnamization effort was intended to develop, through training and equipping, South Vietnamese military forces to the point that they could stand alone and defeat the Viet Cong and North Vietnamese forces.

⁴Route 9, also known as "Highway Nine," was a two-lane paved road that ran from Quang Tri to FSB Vandergrift. From there it was a one- to two-lane dirt road to Laos.
Although the term was not mentioned in afteraction reports, LAMSON 719 was to be an airborne "deep battle" or attack, wholly dependent on U.S. helicopter support for resupply and troop insertions and extractions. FM 101-5-1 defines a deep battle as all actions that support the friendly scheme of maneuver and which deny to enemy commanders the ability to employ their forces (not yet engaged) at the time and place, or in the strength of their choice.

LAMSON 719 also was to be the most significant "combined operation" in the Vietnam War because U.S. advisors would not accompany the ARVN troops into Laos. FM 101-5-1 defines a combined operation as an operation conducted by forces of two or more allied nations acting together for the accomplishment of a single mission. In previous U.S./ARVN operations, U.S. advisors usually served as fire and air support coordinators, and frequently served as command and control in air assaults with U.S. helicopters. In support of LAMSON 719, the United States would commit more air and artillery support to a single battle than at any time during the Vietnam War.

The ARVN units were supported by U.S. Army units of the 24th Corps, but principally, and for all aviation operations, by the 101st Airborne Division (Airmobile). Nearly 700 helicopters and 2,000 fixed wing aircraft were committed to the battle. Estimates ranged as high as 50 percent of U.S. air assets in South Vietnam being committed to the operation. The total American force numbered about 10,000 troops consisting of the equivalent of about six combat aviation battalions, four infantry battalions, three artillery battalions and battalions of mechanized infantry, engineers, military police and other support personnel.

The ARVN force involved nearly 20,000 troops containing about 42 battalion-size units, 34 of which were committed in the Laos operation. These units included the ARVN Airborne Division, a Marine division, the 1st Infantry Division, the 1st Armor Brigade and the 1st Ranger Group. These were the elite of South Vietnam's Army, leaving only about a battalion in their entire national reserve.

Phase I: Dewey Canyon II. Phase I was launched on 30 January 1971 with brigades of U.S. mechanized infantry clearing Route 9 and an infantry brigade quickly securing the Khe Sanh area in a helicopter assault. Little opposition occurred and in a few days the airstrip was repaired and artillery units dug in. During this time the ARVN units assembled in the Khe Sanh area and prepared for the attack.

Phase II: The Attack. The ARVN attack into Laos began on 8 February and consisted of three main thrusts (maneuvers can be followed by referring to figure 3). Several battalions of armor and infantry, plus an engineer battalion, crossed the border into Laos on Route 9. Several units from the 1st Infantry Division were helicopter assaulted south of Route 9 to es-
establish FSBs HOTEL and DELTA on 9 February. North of Route 9, airborne and ranger units were helicopter assaulted to establish FSBs on LZs 30, 31 and RANGER SOUTH. Only the RANGER SOUTH assault received significant antiaircraft fire, quite possibly because nearly a dozen B-52 bomber strikes were made before the attacks and dozens of helicopter gunships assisted in the attacks.

On 10 February, a helicopter assault landed an airborne battalion on Route 9 at Ban Dong and established an FSB named A LUOI. Later that day the armored column reached A LUOI, which was halfway to the objective—Tchepone. From this point on, enemy resistance and antiaircraft fire began to increase on a daily basis. A number of helicopters were shot down from the 10th through the 13th of February as FSBs were set up and bolstered on 30, 31, A LUOI, RANGERS NORTH and SOUTH, HOTEL, DELTA and DON.

For nearly a week, units of the 1st Infantry Division on the southern flank conducted Phase III operations searching out and destroying enemy troops and supplies. Virtually everywhere the ARVN troops went they found supply caches and the bodies of enemy soldiers killed by U.S. air strikes. Several other FSBs and LZs were established on the escarpment as far west as DELTA 1. Unfortunately, the armored column did not move. This took away valuable time that the ARVN forces needed to react and allowed the Communists the advantage of more time to counteract. On the northern FSBs, ranger and airborne units became more and more decisively engaged.

There is a difference between an LZ and an FSB. An LZ that had artillery pieces airlifted and emplaced was renamed an FSB.
Although not clear, this photo taken on 6 March 1971 shows an aerial view of Khe Sanh just prior to the largest combat air assault in Army Aviation history. The dark specks around the two runways are UH-1H helicopters loading ARVN troops.

cause of intense enemy antiaircraft fire, and ARVN forces around LZ GRASS were in continuous enemy contact.

By 19 February the North Vietnamese had reinforcements in place. Large numbers of troops and trucks were seen in the northern area converging on the ranger bases, which had both come under serious attacks. Intense allied air and artillery strikes hit the enemy around the beleaguered ranger positions. But, by the morning of 20 February the enemy was so close to the wire perimeters of RANGER NORTH that helicopter landings were tenuous at best. Attempts to resupply and medical evacuate troops from RANGER NORTH resulted in several helicopters being shot down. That afternoon the base was overrun. Three days later RANGER SOUTH was abandoned before it too would have been overrun.

The ARVN lost nearly 300 troops in the defense of the RANGER FSBs, but a much greater toll had been taken on the enemy (more than 600 killed). Using ranger and airborne units on the northern flank was a tactical error. These units were light infantry and did not have the firepower that the ARVN 1st Infantry Division possessed. While the rangers were beaten, they showed remarkable courage and tenacity in defending for as long as they did against rocket, mortar, artillery fire and "human wave" attacks.

From 23 February to 2 March the airborne units on FSBs 30 and 31 bore the brunt of the North Vietnamese counterattacks. ARVN infantry forces to the extreme southern positions also were under increased enemy pressure. By the end of February several units were extracted from the southern bases (HOTEL II and GREEN) and redeployed by helicopter farther west on the escarpment to DELTA I and BROWN. On 27 February an airborne battalion was inserted into FSB ALPHA to secure and hold open Route 9 to the south.

The most far-reaching battle for the ARVN came 25 February at FSB 31. The airborne troops had been under attack for days, but that afternoon they came under a three-pronged conventional assault by some 20 PT-76 and T-54 tanks in conjunction with an estimated 2,000 infantry. Despite being greatly outgunned and outnumbered, the ARVN troops fought off two assaults with the help of tactical aircraft and artillery that destroyed several enemy tanks just inside the ARVN defenses. On a third attack FSB 31 was captured. Once again the Communists lost many more troops than the ARVN, plus 11 tanks on the assault, but the hill was in enemy hands. Based on intelligence estimates, it quickly became quite clear that the enemy had more artillery, tanks and combat troops than expected.

The airborne troops on FSB 31 were supposed to be rescued by an armored column moving north from Route 9, but the column never reached them in time. Between 25 February and 2 March this armored column and another fought the first head-to-head armor battles of the Vietnam War. The ARVN performed well in these battles and with the help of U.S. air strikes, decimated nearly 1,500

7From one of the aeromedical evacuation helicopters medical specialist SP4 Dennis Fuji was wounded and became stranded on the base. SP4 Fuji remained to help treat wounded and coordinate close air strikes before being picked up on FSB 31. The rescue aircraft was seriously damaged and crash landed on FSB 30. The next day SP4 Fuji and a score of wounded ARVN soldiers were evacuated. For his valor SP4 Fuji received the United States' highest award—the Medal of Honor.
enemy troops and destroyed more than 20 tanks. The ARVN lost about 200 troops, three tanks and 25 armored personnel carriers.

The airborne troops on FSB 30 held out until 3 March before abandoning the base. Enemy tanks assaulted FSB 30 but could not ascend the sharper slopes of the hill, so they stayed within range and provided direct fire support. Despite massive U.S. air power and artillery support that could be brought to bear in the areas north of FSBs 30 and 31, the enemy had created "no go" terrain for helicopters and most fixed wing airplanes. By sheer numbers in troops and firepower the enemy had the ability and audacity to move troops, tanks and vehicles in the open. Even with three divisions' worth of air assets in the 101st Airborne Division, all of the Air Force, Navy and Marine tactical aircraft, and dozens of B-52 strikes, the enemy had more firepower over most of the area of operation than could possibly be suppressed. Targets of opportunity were everywhere.

For nearly 3 weeks the armored column at A LUOI quite honestly "dragged its tracks." It was clear with the deteriorating situation north of A LUOI, that the column could not advance toward Tchepone. Instead, it was directed to remain in a defensive role and an air assault was planned to reach the Tchepone objective.

On 2 March ARVN Marine units were airlifted to FSBs DELTA and HOTEL to relieve the 1st Infantry's troops. On 3 March a battalion of 1st Infantry troops was helicopter assaulted into LZ LOLO. This was one of the darkest days in Army Aviation history. Eleven UH-1 Huey aircraft where shot down in the immediate area of the LZ that day, and some 35 UH-1s received combat damage. The air mission commander actually instructed the follow-on aircraft to, "Land to the burning aircraft!" that fateful day. Despite the losses, Army Aviation completed the mission to establish an FSB at the LOLO location. By 5 March the string of LZs and FSBs along the escarpment south of Route 9 and the Xepon River was complete. These included FSBs SOPHIA WEST and DELTA I along with LZs LOLO, LIZ and BROWN.

The FSBs and LZs along the escarpment provided the ground track for most helicopters to fly back and forth conducting resupply, combat assaults and aeromedical evacuation. These bases also provided the path for withdrawal after the assault on Tchepone. FSB SOPHIA WEST with its eight artillery pieces was also within range of the Tchepone area.

The 6th of March started as a beautiful, clear blue day. B-52s changed that by pounding the Tchepone area that morning. That afternoon, two battalions of the ARVN 1st Infantry Division were airlifted into LZ HOPE near Tchepone on the largest helicopter combat assault in the history of Army Aviation! An armada of 120
A 174th Assault Helicopter Company UH-1C "Charlie" model gunship refuels at Khe Sanh. The gun platoon of this unit was called the "Shark." 

The Ho Chi Minh Trail in Laos winds near the RANGER fire support bases. Bomb craters, mostly from B-52 strikes, are visible along the roads and especially by a river crossing point.

UH-1s departed Khe Sanh in a single-ship, 30-second separation formation on the 50 + mile round trip. A score of helicopter gunships and fixed wing, tactical aircraft flanked the UH-1s on that assault. Only one helicopter was shot down on an approach into LZ HOPE with a few others receiving "hits" from enemy fire.

On the ground, ARVN troops encountered little resistance and Tchepone was occupied for a few days. In the wake of the B-52s' powerful strikes, ARVN troops counted hundreds of North Vietnamese killed. A virtual "mountain" of food, supplies and weapons was also captured or destroyed. On 10 March units operating from LZ HOPE linked up to the south with units from SOPHIA WEST. This marked the end of Phases II and III and the beginning of Phase IV. Recall that Phase III was the exploitation phase during which search and destroy operations were conducted by units around their respective LZs and FSBs. Such operations were ongoing throughout Phase II.

**Phase IV: The Withdrawal.**

Withdrawal from positions along the escarpment and on Route 9 was accomplished on foot and by helicopter extractions. From 11 to 14 March units from SOPHIA WEST and LZ were extracted to SOPHIA EAST and DELTA I. By this time viturally all of the fixed locations of ARVN troops were in frequent contact with the Communists whose antiaircraft emplacements were everywhere, intent on defeating efforts to resupply or extract troops. The ARVN needed to execute an orderly withdrawal from a deep attack while under intense enemy pressure. (This is one of the most difficult military maneuvers to conduct.) At this point ARVN troops had little or no artillery support of their own. Many of their units were running dangerously low on ammunition, and the troops were very fatigued.

To complete extractions under enemy contact, most ARVN units had to move their locations at night. They had to break contact with the enemy and then find a suitable pickup zone (PZ) where extractions were feasible. Frequently, extractions could only be completed after or during intense artillery, helicopter gunship and tactical air support. By 18 March ARVN units, with mounting losses, had withdrawn east on the escarpment south of A LUOI.

On 19 and 20 March evacuation of armor and airborne units commenced with the closing of A LUOI. The armored columns moved east along Route 9 without too much difficulty until reaching FSB BRAVO where they ran into a Communist blockade, ambushes and tanks.

From 20 through 22 March the last armored columns on Route 9 tried to return to Khe Sanh, but most were ambushed and destroyed. This marked the end of the Route 9 withdrawal except for stragglers who managed to come through during the next day or so.

On the escarpment, all ARVN 1st Infantry Division troops were extracted by 21 March, but not before Army Aviation became engaged in intense combat the day before. While making repeated
flights to extract ARVN troops from PZ BROWN, 10 UH-1H helicopters were shot down. About 50 more received combat damage. Once again Army Aviation was put to the ultimate test. It took serious losses, but completed its mission!

The ARVN Marines were the last units left on the escarpment at FSBs DELTA and HOTEL. On 20 and 21 March a brigade on FSB DELTA came under continuous attack. Four times combined human wave and tank attacks were repulsed with the aid of U.S. artillery and air support to include close-in B-52 strikes. North Vietnamese tanks and high troop concentrations appeared everywhere along Route 9 and on the escarpment.

On 22 March the ARVN Marines were finally driven off of FSB DELTA by flame-throwing tanks. The next day as many Marine units as possible were extracted from Laos and on 24 March the last elements of ARVN troops were extracted from FSB HOTEL. LAMSON 719 ended with a tremendous show of North Vietnamese firepower, stopping short of advancing into South Vietnam toward Khe Sanh to continue the battle. LAMSON 719 fighting continued up to 6 April, but after 24 March only a couple of 1-day raids were conducted into BASE AREA 611 with little casualties or consequence.

**Battle Facts and Statistics**

Throughout LAMSON 719, Army Aviation units continued to encounter intense enemy antiaircraft fire while resupplying troops and extracting the wounded and dead. Most approaches to LZs along the escarpment and on Route 9 received heavy fire going in. In the LZs, the aircraft received mortar and small arms fire as well as occasional artillery barrages. But the worst part of the gauntlet came when the UH-1 Hueys would depart the LZs and attempt to climb out. Then a droning fusilade of fire would be unleashed from several locations, making it difficult to maneuver away from the fire.

The most frequently used and frightening antiaircraft weapons the Hueys encountered were the 12.7 mm or 50 caliber machineguns. These weapons had a distinctive sound and fired tracers every few rounds, which looked like bas-
ketballs or pumpkins coming at the aircraft. Even with two and four gunships for support and occasional tactical fighters, some sorties could not be completed. Toward the end of the operation, the North Vietnamese altered their strategy by letting some aircraft make approaches without being shot at, then suddenly unleashing mortar, artillery and antiaircraft barrages at the helicopters upon landing and taking off. At times more than 20 ARVN soldiers would be lifted out by straining UH-1Hs, with soldiers clinging to the skids. Media portrayals of these incidents were used as proof that the South Vietnamese had been "routed" from Laos.

Weather was a serious problem, hindering LAMSON 719 operations. Most aircraft were stationed on the coast more than a half-hour flight to Khe Sanh in a UH-1. Refueling and staging was done mainly at Khe Sanh or FSB VANDERGRIFT. Bad weather over Laos, Khe Sanh or the coast too often caused delays or cancellation of missions, occasionally at critical moments during the battle.

Results of the LAMSON 719 operation brought criticism from some about the concepts of airmobility and fire support bases. ARVN troops were unable to effectively patrol around their FSBs and thereby failed to prevent enemy hugging tactics. Successful patrol was necessary to provide security for helicopter operations. Also, fixed positions engaging superior enemy firepower were questionable and provided a distinct disadvantage in counterbattery fire—a common occurrence during LAMSON 719. The Communists had greater mobility, familiarity with the area, and longer artillery standoff ranges than the ARVN. Hence, greater mobility in the deep attack probably would have been more serviceable. While the concept of airmobility may have been questioned, a review of the battle statistics shows that Army Aviation could perform its mission in a mid-intensity conflict, which includes heavy concentration of antiaircraft fire (figures 4 and 5). In such an environment, a significant loss of aircraft and people was inevitable! However, considering the number of sorties, the loss rate was remarkably low.

The outcome of LAMSON 719 on the ground was questionable. But the successful performance of Army Aviation supporting a deep attack as a maneuver element of a combined arms team (which included an allied force) proved the concept of airmobility without doubt. The North Vietnamese knew well the four employment principles of air defense: mix, mass, mobility, and integration. But, Army Aviation countered enemy efforts more times than not.

The significance and success of the helicopter on the mid-intensity, mobile battlefield finally proved the helicopter's unique capabilities that had until then only been anticipated/conceptualized, never before proven in combat. An attack of such magnitude never could have been accomplished from start to finish in just 45 days without the airmobility capabilities of the helicopter. Without U.S. firepower and airmobility tactics, a deep attack into the Communist's most-defended base areas (which incorporated intense enemy firepower and large troop concentrations) would have been foolhardy. The result would be little success and probable casualty rates in excess of the near 45 percent level experienced by the ARVN task force.

LAMSON 719 was different from overall operations in South Vietnam, and also different from current tactical doctrine in Army
Aviation. Throughout South Vietnam, helicopters generally operated in a low-intensity antiaircraft fire environment. Helicopters usually were only sporadically engaged, primarily with just small arms fire. During combat assaults, gunship support was often successful in suppressing enemy fire. Even up to the standdowns in 1972, low level (nap-of-the-earth) flying was prohibited and viewed as unsafe. Aircraft were supposed to fly at 1,500 feet above ground level in Vietnam and at least 3,000 feet above ground level in Laos and Cambodia.

On single helicopter missions, tight circling approaches and climbouts were typical for getting into and out of LZs. Multiship combat assaults also conformed to the altitude restrictions and usually were conducted in lifts of UH-1s in tight formations to get as many aircraft as possible into a PZ/LZ. Usually one gunship team of two helicopters would provide fire support around a PZ/LZ by flying a racetrack pattern on one side of the flight at an altitude 500 to 1,000 feet above ground level.

In Vietnam such tactics were successful, but in Laos they were disastrous. Before the end of LAMSON 719 single helicopter sorties were routinely flown at low level; combat assaults were conducted by single ship landings with 30-second separations, and gunships made runs from higher altitudes. The LAMSON 719 battle did more than any other operation in the history of the Vietnam War to revert Army Aviation doctrine to the development of nap-of-the-earth flight tactics (such as were being developed at the Aviation Center, Ft. Rucker, AL, in the late 1950s and early 1960s). Also Vietnam helicopter tactics were moved away from close formation combat assaults!

Who really won the LAMSON 719 battle? Both sides claimed victory, but a review of the major objectives of the operation showed that it was more of a success for the South Vietnamese. They did interdict into Laos and disrupt the flow of enemy troops and supplies along the Ho Chi Minh Trail. In fact, because of this campaign, it was more than 1 year before North Vietnam launched any significant offensives in the south.

LAMSON 719 revealed some serious flaws, particularly in the Vietnamization effort. The ARVN force was not sufficient in size, and it was a long way from being able to provide its own air and firepower to thwart the determined Communist aggression.

Despite the Communist losses, the significant losses sustained by ARVN troops damaged the morale and confidence of the South Vietnamese. In particular, the Vietnamese people were shocked and hurt that so many dead and wounded were never extracted from the battlefield. Recall that the Vietnamese culture was dominated by ancestor worship: Failure to return the bodies of fallen soldiers accentuated the grief of family members.

LAMSON 719 was supposed to last up to 90 days instead of only 45 days. Clearly, the Communist's significant counterattacks shortened the duration of the operation. Finally, within a week after the battle, Communist activity on the Ho Chi Minh Trail had resumed with its usual earnest, never to be seriously threatened again.

The final battle tallies and aviation statistics were taken from the 101st Airborne Division (Airmobile) afteraction report (April to May 1971). The afteraction report was declassified after 12 years (Department of Defense Directive 5200.10). The casualty numbers shown in figure 4 are based on the total troops committed in LAMSON 719. Official dates given for aviation statistics were 8 February to 24 March 1971, or 45 days. Damage and loss statistics for the Army Aviation rotary wing assets committed to the operation are shown in figure 5.

Next month LAMSON 719 coverage concludes with "Part III: Reflections and Values." In it, the lessons learned from LAMSON 719 will be summarized.

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FIGURE 4: Casualty Statistics.

FIGURE 5: Helicopter Damage and Loss Statistics.
Part III: Reflections and Values

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The June 1986 issue of the Aviation Digest contained "Part I: Prelude to Air Assault" of this three-part series. It reviews the history of the Vietnam War leading up to LAMSON 719, the most significant airmobile/air assault battle of the war and the only historical example of contemporary Army Aviation operating in a mid-intensity conflict. Part I defines the levels of conflict, describes Army Aviation missions and units, and discusses the concepts of fire support bases and airmobility in the Republic of Vietnam. It also discusses the Vietnamese culture and its impact on military operations.

Last month's "Part II: The Battle" describes immediate events leading up to LAMSON 719—the operations order, the battle itself and some of the battle statistics.

This article concludes the series by reviewing battle statistics and official operational and afteraction reports of the 101st Airborne Division (Airmobile) (April to May 1971). These reports and several other units' and commanders' debriefing reports on LAMSON 719 were declassified after 12 years (DOD Dir. 5200.10) and are available through the Defense Technical Information Center.

Also, this article presents comparison statistics on the Vietnam War to put the LAMSON 719 battle in better perspective; finally, the author gives some personal reflections about his experiences in Vietnam and Laos during LAMSON 719.

The value in studying the Vietnam War, and in tapping the "corporate memories" and experiences of those soldiers who served in Vietnam, cannot be overemphasized.

This article stands alone for most of its information content. That is why a summary of the LAMSON 719 battle is provided. But, readers can get more information and definitions of terms by reading Parts I and II. (Copies can be obtained by writing to Aviation Digest, P.O. Box 699, Ft. Rucker, AL 36362-5000, or by calling AUTOVON 558-3178.)

Various official reports written in 1971 about LAMSON 719 total more than 300 pages. Space does not permit a complete review here, but the prophetic nature of the recommendations proffered by the chain of command in its review of the battle and the lessons learned are truly remarkable. Indeed, Army Aviation has refined and evolved its tactical doctrine beyond Vietnam, but it has not "reinvented the wheel." Army Aviation opera-
tions and lessons learned during LAMSON 719 probably contribute to current and developing evolution of Army Aviation tactical doctrine more than any other operation has in the past 20 years.

LAMSON 719 Summary

The principal objectives of LAMSON 719 were to interdict and disrupt the flow of enemy troops and supplies into South Vietnam along the Ho Chi Minh Trail in Laos. LAMSON 719 became the most serious test of the concept of air mobility. It came in a setting of helicopters operating on the battlefield as a critical member of a combined arms team, on a combined operation, in a deep attack.

LAMSON 719 was the first major test of the formalized Vietnamization effort. It bought more time for the Vietnamization program and more safety for the continued withdrawal of U.S. troops, by damaging North Vietnam’s ability to launch offensives. And, hopefully it helped alter North Vietnam’s intransigence in peace negotiations, which then were underway.

LAMSON 719 was launched across the Vietnam-Laos border in the vicinity west of Khe Sanh on 8 February 1971. The operation lasted 45 days and was terminated, for the most part, on 24 March 1971. It involved about 17,000 Army of the Republic of Vietnam (ARVN) troops supported by U.S. Army units of the 24th Corps. All aviation operations were principally supported by the 101st Airborne Division (Airmobile). Some 10,000 U.S. troops supported the ARVN attack into Laos.

In LAMSON 719, the United States committed more air and artillery support to a single battle than at any other time during the Vietnam War. Aviation assets in the 101st were beefed up to the then equivalent of a three-division size force for an area of operation in Laos of about 53 km x 20 km. The 101st afteraction report listed assets of 659 helicopters in support of the operation. The ARVN deep battle was conducted without any U.S. ground forces or advisors entering Laos; but, U.S. air support was used to its maximum for transportation and firepower. The ARVN forces would become wholly dependent on U.S. helicopter support for resupply and troop insertions and extractions in Laos.

Strength of the North Vietnamese Army (NVA) was estimated to be 30,000 combat and 20,000 logistics troops in two main staging areas in Laos. The NVA expected an attack into Laos and upgraded its defenses and troop strength purposefully, to stand and fight. The enemy had several hundred antiaircraft weapons circulated among several thousand prepared emplacements, and artillery and armored regiments ready to respond to the attack.

The operations order for LAMSON 719 was written and generally executed in four phases:

- Phase I started 1 February 1971 and consisted of U.S. units reopening the Khe Sanh base and airstrip,
and clearing Route 9 (a 1- and sometimes 2-lane dirt road) from Fire Support Base (FSB) Vandergrift to the Laotian border. Route 9 started in South Vietnam on the coast in Quang Tri and coursed westward across Vietnam and Laos. In 1968 Khe Sanh was the site of a major battle with U.S. Special Forces and Marine units battling NVA units. The Khe Sanh plateau had been abandoned for more than 2 years before LAMSON 719 was launched.

- Phase II began on 8 February 1971 and consisted of ARVN units attacking westward into Laos along three lines. Armor units spearheaded an advance down Route 9, while infantry units were helicopter assaulted to advance along the southern flank in the panhandle of Laos, and on a well-defined terrain feature called the "escarpment." Airborne and ranger units were helicopter assaulted to set up FSBs and flank protection to the north of the armor attack. Phase II continued with coordinated attacks to the west as far as a town called Tchepone, some 26 miles into Laos. By 10 March Phase II was completed.

- Phase III was exploitation. Search and destroy operations were conducted against enemy forces and bases. These operations were ongoing throughout Phase II.

- Phase IV consisted of the withdrawal of ARVN troops from Laos. This phase lasted from 11 to 24 March.

Throughout the operation, enemy opposition was intense. There were more NVA troops than was originally thought, and they had a great deal more armor (especially tanks) and artillery than expected. ARVN troops were subjected to infantry and tank assaults and bombardments by rockets, artillery and mortars. Several embattled ARVN bases were overrun or abandoned in the face of intense NVA attacks.

Despite massive U.S. air support and firepower, the LAMSON 719 battle continued into March. Personnel and materiel losses mounted steadily against the ARVN and the NVA gained the upper hand. Indecision and troop discipline slowed ARVN movement, especially in armor units, and reserves were not committed when the battle momentum turned against the outnumbered, outgunned ARVN troops. It was during LAMSON 719 that the first head-to-head armor battles took place in the Vietnam War which, incidentally, were won by the ARVN units.

One of the most serious problems and impairments in the operation came from intense antiaircraft fire against U.S. helicopters, particularly the utility and cargo helicopters around and in landing zones (LZs). The NVA employed "hugging" techniques by getting in as close to ARVN units as possible, then waiting to engage helicopters on "short final," when landing and again when departing LZs. The NVA also usually struck LZs with deadly mortar and/or artillery barrages. Too often resupply and troop insertion or extraction sorties could not be completed, even with support of helicopter gunships, artillery, tactical air and B-52s. Although unplanned, ARVN units that were besieged on FSBs became like decoys used to set up the enemy for massive U.S. bombing, particularly by B-52s. Such strikes took heavy tolls on NVA forces.

Even aeromedical evacuation (MEDEVAC) helicopters with their Red Cross insignias were not exempt from NVA antiaircraft fire. As the wounded and dead mounted without being evacuated, and as supplies ran low, on occasion ARVN units lost their integrity and were routed by the NVA. Some ARVN troops rushed to and overloaded landing helicopters in desperation to get aboard and return to Khe Sanh.

Despite problems created by the NVA, LAMSON 719 successfully met most of the operations objectives. But, it fell far short of what it could and should have been. Most ARVN units inflicted serious losses on the NVA and showed great valor against withering odds. In the mid-intensity conflict that LAMSON 719 was, significant losses of troops and equipment were inevitable. In the final analysis, ARVN troops, for the most part, were equal to or better than those of the NVA. Figure 1 summarizes the casualty statistics.

LAMSON 719 revealed some serious flaws in the U.S./ARVN war effort, particularly in the progress of the Vietnamization program. The ARVN force was not sufficient in size and a long way from being able to provide its own air and fire-
power to thwart determined NVA aggression. Despite greater NVA losses, there were significant ARVN losses: The inability to extract all of their dead and wounded greatly damaged ARVN morale and the confidence of the South Vietnamese people and Army.

Army Aviation In LAMSON 719

For Army Aviation, LAMSON 719 proved the concept of airmobility beyond a doubt. The NVA was well-versed in the four employment principles of air defense: mix, mass, mobility and integration. However, Army Aviation countered enemy efforts more times than not. LAMSON 719 was the costliest airmobile assault in terms of loss of lives and equipment in the entire war; yet, measured against such intense antiaircraft fire in a mid-intensity battle, losses were remarkably low. In particular, about 80 percent of the aircraft shot down were lost in the immediate vicinity of “hot” LZs where helicopters were most vulnerable. Figure 2 portrays a summary of Army Aviation (101st) battle statistics.

LAMSON 719 produced several significant events in the history of Army Aviation that we should all be aware of:

- More helicopters received combat damage and were shot down during LAMSON 719 than at any other comparable time in the Vietnam War. Of the Army helicopters committed to LAMSON 719, 68 percent received combat damage and 14 percent were lost.

- The combat assault on Tchepone, some 26 miles into Laos, involved more helicopters in a single lift than any combat air assault in Army Aviation history. On 6 March, 120 UH-1H Huey helicopters airlifted two battalions of ARVN troops from Khe Sanh to LZ HOPE in the assault on Tchepone. An armada of helicopter gunships also participated.

- For the first time in combat, AH-1G Cobra gunship helicopters engaged enemy armor. During LAMSON 719, Army “CAV” gunships were credited with destroying six tanks and immobilizing eight more. More details about these armor engagements follows in later paragraphs.

- Two of the worst days in Army Aviation history occurred during LAMSON 719. On 3 March, in a helicopter assault to establish LZ LOLO, 11 UH-1H helicopters were shot down in the immediate vicinity of the LZ and some 35 UH-1s received combat damage. On 20 March, attempts to extract ARVN troops out of LZ BROWN resulted in 10 UH-1H helicopters being shot down and some 50 more receiving combat damage; 29 percent of all UH-1 combat losses during LAMSON 719 occurred on those two fateful days, but Army Aviation still completed its missions.

During LAMSON 719 the 101st Airborne Division (Airmobile) and units under its operational control (OPCON) lost 90 helicopters. Also, five Army fixed wing aircraft were lost, plus two ARVN helicopters. U.S. Air Force, Navy and Marine losses were given at eight aircraft. Not surprisingly, unofficial estimates published by the news media listed the damage and loss statistics higher: 600 and 107, respectively.

During the 45-day operation some replacement aircraft were received and other aircraft lost for maintenance (scheduled rebuilding, etc.) or noncombat accidents. So, the number of helicopters involved had to vary. The 101st established a data base by unit and tail number for the aircraft initially employed in the battle. From this data base, the aviation statistics summarized here are considered highly accurate. Nevertheless, even if higher estimates of helicopter losses and battle damage were more accurate, the survivability of helicopters in the mid-intensity, high antiaircraft threat environment of Laos would still be most remarkable.

In the 45 days of combat flying in support of LAMSON 719, 101st
Four soldiers were killed in this crash of a UH-1C helicopter when it took off from Tin Phuoc after refueling. The noncombat accident took place on 6 July 1971. It was caused by loss of rotor rpm in a turn. INSET: This UH-1H crashed when a ground soldier's poncho flew up into the tail rotor resulting in a loss of tail rotor control. Luckily no one was killed.

Airborne Division (Airmobile) and OPCON units logged a total of 78,968 flying hours and completed 204,065 sorties. For the 101st, 426 helicopters logged 28,836 hours in February (68 hours per airframe) and 31,067 hours in March (73 hours per airframe). There was a daily average of 161 aircraft flying, involving 575 aircrewmembers.

During LAMSON 719 aircrewmembers were waived from a restriction to fly no more than 140 hours in a 30-day period. It was not uncommon to find aircrewmembers with some 300 combat flying hours during LAMSON 719. Indeed, Army Aviation displayed a truly heroic level of mission integrity on a daily basis. Anyone who flew the LAMSON 719 gauntlet in Laos learned how serious a war can become as compared to what came to seem like almost routine low-intensity conflict, as otherwise experienced in South Vietnam.

Casualties of the 101st Division over the 45-day period are listed as: 26 killed in action, 152 wounded in action and 32 missing in action. This is an average of 4.7 aircrewmember casualties per day. For every 1,000 hours flown, slightly more than five aircrewmembers became casualties. For every 1,000 sorties in Laos there were five casualties compared to less than two casualties per 1,000 sorties in South Vietnam for the same period. Also, in Laos, two aircraft were lost per 1,000 sorties, which compared as a 13 times (13X) greater damage incidence than occurred in South Vietnam for the same 45-day period.

One area of especially interesting statistics is the noncombat accident rates. During LAMSON 719, 11 helicopter accidents were reported, representing a rate of 29.0 accidents per 100,000 flying hours. In the same period a year earlier, the 101st experienced an accident rate of more than 40 accidents per 100,000 flying hours. For all of Vietnam, the Army Aviation accident rate in fiscal year (FY) 1970 was 23.3 accidents per 100,000 flying hours; in FY 71 the accident rate was 19.0. Compared to the current Class A through C overall accident rate of 8.81 for FY 85 per 100,000 flying hours, Army Aviation has indeed come a long way in aviation safety.

It's appropriate to point out some other statistics about Army Aviation in Vietnam. The U.S. Army Aviation Center estimates that some 13,000 Army aircraft cycled through Vietnam from 1961 to 1973. Of all these aircraft, nearly 6,000 were totally lost due to combat or noncombat accidents. From 1968 to 1971, for instance, 4,510 rotary wing aircraft were lost: 2,879 (64 percent) to combat and 1,631 (36 percent) to noncombat! In the same period, 499 fixed wing aircraft were lost: 292 (59 percent) to combat and 207 (41 percent) to noncombat! These numbers are not exaggerated. Think about it—nearly 40 percent of the aircraft lost in Vietnam were not down as a result of combat action!

The mission of the Army Medi-
LAMSON 719

The United States Department is to "conserve fighting strength." While it's not polite to steal, it is also accurate to say that the mission of Army Aviation's safety and maintenance programs is to "conserve fighting strength." During the Vietnam War, the single most significant "combat multiplier" Army Aviation could have taken advantage of was in the area of aviation safety. Field Manual 101-5-1, "Operational Terms and Symbols," defines a combat multiplier as a supporting and subsidiary means that significantly increases the relative combat strength of a force while actual force ratios remain constant. A greater emphasis on aviation safety could have magnitudinally increased the relative combat strength of the Army Aviation force in Vietnam. Hopefully, we have learned that and will not let aviation safety slip away in future conflicts.

During the Vietnam era, an estimated 22,000 helicopter pilots were trained by the Army and served at least one tour in Vietnam. From 1961 to 1973, 1,103 aviators were listed as killed in Vietnam from all causes. Official Army casualty statistics listed a loss of 1,045 aviators killed due to combat and noncombat aviation mishaps over the period 1 January 1961 to 30 June 1979. From these statistics, 618 (59 percent) were due to combat and 427 (41 percent) were due to noncombat accidents. Hence, several different statistical sources are in fairly close agreement in both combat and noncombat personnel and aircraft losses.

In LAMSON 719, however, the ratio of accidents to total losses for helicopters was much lower (14/104) at 13 percent. This was attributed to a greater "vigilance" by aviators in the high threat environment. Most accidents that did occur were attributed to aviator "let down" away from the combat environment.

The unsung heroes of LAMSON 719 had to be Army Aviation maintenance and logistical support people. Remarkably few aircraft were lost due to mechanical failures and "operational readiness" levels remained fairly high for most units throughout LAMSON 719. This is even more remarkable considering that most units OPCON to the 101st operated out of field sites without the benefit of proximity to intermediate and higher maintenance levels.

Lessons Learned From LAMSON 719

The list of lessons learned, taken from the 101st reports, do not flow together, so each area is introduced by helicopter silhouettes.

**During LAMSON 719,** combat assault helicopters were primarily planned on intelligence pertaining to antiaircraft locations rather than enemy troop concentrations. Employment of air cavalry units in reconnaissance to gather current intelligence in advance of combat was found to be critical for screening flight routes and pickup zone and landing zone sites in Laos. Sensor implants also were found to be effective in identifying neutralization, suppression, avoidance and probable safe zones.

The most critical factor to the success of all aviation operations in the mid-intensity environment was considered to be thorough, detailed planning. Because of the high density and effectiveness of antiaircraft fire, it was imperative that all missions be executed swiftly, precisely and efficiently. All available assets had to be employed for each operation. For instance, MEDEVAC helicopters rarely made extractions without two gunships for fire suppression support. Toward the end of LAMSON 719 aeromedical evacuation missions used four gunships whenever possible and coordinated a second "Dustoff" or "slick" (UH-1H) helicopter for high-ship support and downed aircrew recovery.

Planning for refueling and rearming points caused a lot of problems because they were not given the priority they deserved. They usually lacked suitable areas for approach, departure and hovering maneuverability, and on occasion they were unable to accommodate the large volume of aircraft. Priority planning was essential since mission delays in the mid-intensity tactical environment were always costly.

Marginal weather was a problem throughout the LAMSON 719 area of operation. Multiship combat assaults required greater planning skill, and more flexibility in adverse weather:

- Aircraft had to be ready without delay.
- Continuous weather checks were essential.
- More detailed map planning with suitable time to conduct route reconnaissance and to complete air movement tables was needed. The above were considered critical for successful multiship combat assaults.

VHIRP (vertical helicopter instrument [IFR] recovery procedures) were unheard of at the time. Most aviators were not proficient in instrument flight rules. There were no radar controllers; the few navigational aids on the coast were unreliable; and most aviators did not have approach plates nor did they know approach procedures. If an aircraft inadvertently entered instrument meteorological condi-

Many UH-1H resupply aircraft had to land in less than suitable LZs. Here a "slick" has landed and shutdown within a small Vietnamese outpost.
tions the general procedure was to climb to 5,000 feet above ground level or try to get "VFR (visual flight rules) on top" of the clouds; look for a "hover hole" to descend back to ground level; or fly east at least 30 minutes to get over the South China Sea, then descend with your fingers crossed.

Effective recovery of downed crews, and aircraft when possible, had to be accomplished without delay to be successful. Delays usually resulted in large-scale operations and tactical air support to recover crews. Some aircrew recovery operations were conducted by U.S. Air Force search and rescue teams flying armored-plated CH-53 helicopters. Recovery plans for downed crews and immediate "high-ship" assets (usually an unloaded UH-1H) flying above the mission aircraft, along with the command and control (C&C) aircraft, were considered essential.

On some occasions aviators attempted to fly damaged aircraft out of Laos rather than electing to land in a secure area. This resulted in the loss of at least four aircrew members. Aviators were encouraged to put aircraft on the ground whenever any difficulties arose. Just as a humorous note here: The 101st report stated that, "Crew members' fears of setting down in hostile territory were alleviated by ensuring they were knowledgeable in survival, escape and evasion (techniques)." This statement was optimistic at best. Most aviators viewed any downtime in Laos as their being worse off than a fish out of water.

During LAMSON 719, hydraulic failures and engine failures caused some problems for aircraft availability. Several solutions were offered for maintenance's use, but the most interesting was a recommendation to place a form in aircraft logbooks for keeping "daily engine recording" (DER) checks to compare engine performance. DER checks were the precursor to the engine "health indicator tests" currently performed in Army aircraft.

The sharp increase in damage to helicopters created an increased demand for unscheduled maintenance, especially for sheet metal, prop and rotor, and electronics and avionics repairs. Maintenance activities were required to operate 24 hours a day and were augmented at all levels as much as possible. Controlled cannibalization on retrograde or unserviceable aircraft greatly reduced supply needs; stockage of such quick change assemblies as engines, rotor blades and heads, transmissions and tail booms markedly decreased turnaround time for getting aircraft back into the battle. In some units an aircraft commander, crew chief and gunner habitually flew one aircraft. Whenever possible, when the aircraft went down for scheduled maintenance the crew went down with it and assisted in the maintenance work.

Communications security was a serious problem. The ARVN lost more than 1,500 radio sets in Laos. In the latter part of the operation a call to a field location to "pop smoke" (with a colored smoke grenade) would frequently result in many locations popping smoke. ARVN and NVA troop concentrations were extremely difficult to distinguish except on fire support bases in Laos. Frequently, field units had to use smoke grenades (or other means) at least twice to verify their locations. On at least one occasion (witnessed by the author) an aircraft and its crew members were lost when a C&C aircraft failed to properly verify an LZ which turned out to be an NVA ambush.

There were serious problems with secure communications between aircraft and United States' ground units. ARVN units did not have secure radio capabilities. Only FM (frequency modulated) radios had secure capabilities in some aircraft and they were usually not set properly for each day's frequencies. Implementing frequency changes for security initially caused problems because such changes were made at 2400 hours. This caused units to have to violate strict light and noise discipline. Frequency changes were later changed to occur at first light. It's safe to say that, from the first day to the last, communications security by U.S. and ARVN forces was terrible; that of course was an advantage for the NVA.

Air cavalry teams employing scout aircraft to locate the enemy, usually by drawing fire, were generally unsuccessful and this procedure was abandoned as a tactic in Laos. The most successful
teams consisted of one AH-1G low, and two or three AH-1G helicopters high, with one UH-1H for C&C and downed crew recovery. The principal reason cited for this was the vulnerability of the scout aircraft because they did not have an immediate fire suppression capability. A serious emphasis was placed on the need for scout aircraft to have some fire suppression capability. Of course, the most mounted site on the new OH-58D (AHIP) scout helicopter does afford a greater standoff range to conduct reconnaissance missions against threat forces.

During LAMSON 719, Army Aviation gunship helicopters were not well-equipped nor prepared to engage NVA tanks. While Army AH-1Gs were credited with destroying six tanks and immobilizing eight, there were actually 66 sightings reported. The NVA had PT-76 and T-54 tanks. Only thin-skinned PT-76 tanks could be engaged because Cobra gunships did not carry or even have available, armor piercing ordnance. When tanks were spotted by gunships the AH-1s rarely had enough ordnance to engage more than one or two. In the most effective tank engagements, Army helicopters located and fixed tanks, then turned them over to tactical fighter-bombers. During LAMSON 719, tactical air support was frequently available on short request, usually within 15 minutes, although low ceilings and poor visibility greatly limited their support in Laos.

Enemy hugging tactics, plus a large dispersion of high troop populations concentrating small arms and heavier weapons antiaircraft fire, cannot be suppressed easily by aerial or ground artillery. Even though there was not an enemy aviation threat, antiaircraft engagement discipline of the NVA was effective enough to create some "no go" terrain for Army helicopters.

On a deep attack in a mid-intensity conflict the accomplishment of Army Aviation missions takes on an even greater significance, especially for such missions as resupply and aeromedical evacuation. MEDEVAC assets were not adequate to handle the high number of casualties. For moral purposes and troop morale it is just as important to evacuate the dead as well as the wounded — on the same helicopter if need be. This was a particularly acute problem with the South Vietnamese because their cultural tradition emphasized close familial ties.

Cargo helicopters were more limited than other helicopters in their ability to complete sorties in the mid-intensity environment of Laos. The fact that cargo helicopters were not able to resupply critically needed artillery ammunition and other supplies to ARVN FSBs played a significant part in limiting the duration and the success of LAMSON 719 operations on the ground for the ARVN in Laos.

While multilift, tight formation combat assaults were typical within South Vietnam, such tactics were disastrous in the mid-intensity environment of Laos. The most successful assaults were by single-ship formations with 30-second separations.

Most unit operating procedures called for en route flights in Vietnam to be conducted at 1,500 feet above ground level (AGL) and at least 3,000 feet AGL in Laos. Low level or nap-of-the-earth (NOE) flying was still officially prohibited, even during LAMSON 719; but it was used much more frequently as antiaircraft fire intensified. Comments about NOE flight in the afteraction reports are particularly interesting and directly quoted here: "Under certain circumstances combat assaults, resupply missions, and medical evacuation were better conducted by low level, nap-of-the-earth flight than by high altitude flight.

Aircraft flying the nap-of-the-earth presented fleeting targets to enemy gunners and gained surprise by their sudden and unexpected appearance in the landing zone and quick departure. When this tactic was used, a guide aircraft flew at a higher altitude above the low-flying aircraft to vector them to their objective. Nap-of-the-earth flight was sometimes appropriate and effective when aircraft flew into a firebase or friendly position surrounded by enemy who used "hugging" tactics and placed accurate fire on the landing zone or when low cloud ceilings forced pilots into choosing between flying the dangerous intermediate altitudes or at treetop level. Nap-of-the-earth flight was not used frequently." No doubt the author of the paragraph above felt compelled to add the last sentence to dilute any sanctoning of low-level flying. Interestingly, after LAMSON 719 most 101st and OPCON units returning to their previous areas of operations and missions in South Vietnam resumed using the earlier tactics of tight formation combat assaults and were still prohibited from flying NOE. But, LAMSON 719 had converted a great many aviators who flew NOE as often as possible, especially on single ship resupply missions. While NOE techniques were not officially recommended in the afteraction reports, LAMSON 719 probably did more to move Army Aviation tactical doctrine toward such techniques (as we currently employ and as we were being developed before Vietnam) than any other operation in the war.

Personal Reflections

Editor's note: CPT Fulbrook concludes this three-part coverage of LAMSON 719 by offering (below) his personal reflections on the values of the lessons learned by Army Aviation in LAMSON 719. His thoughts, plus those of others who reviewed this series on LAM-
Several hundred villagers line the side of a hill leading up to a Vietnamese outpost. A local province chief with loudspeaker addresses the crowd who are protesting the departure of U.S. troops from LZ Siberia across the river. Many Vietnamese feared that the ARVN troops would not provide the security the American troops had provided to this “pacification” area.

SON 719, will be published in an Aviation Digest early this winter. That gives you a chance to participate with us in the LAMSON 719 review article. You don’t have to be a LAMSON 719 vet. Your functional thoughts about this series of articles, or of other LAMSON 719 opinions or thoughts, also are welcome. Send them to Editor, Aviation Digest, P.O. Box 699, Ft. Rucker, AL 36362-5000. Please send them not later than 1 November 1986. Your thoughts are very important!

Nothing I’m about to write is representative of any official policy of anybody or any organization beyond me (although I believe most Vietnam-era aviators will strongly agree with most of my observations).

I served in Vietnam as a warrant officer from May 1970 to June 1971. I was assigned to the 71st Assault Helicopter Company (AHC), flying UH-1H helicopters out of Chu Lai, a city south of Da Nang, in the northernmost corps region of South Vietnam. The 71st AHC supported units of the Americal, or 23d Infantry Division.

During my tour I logged 1,420 hours of combat flight time. In all that time I took “hits” from enemy fire on only one occasion: On 6 March 1971, as Chalk 47, on the 120-helicopter assault to Tchepone in Laos. In my unit I was one of the highest time aviators with the least number of hits among the area of operations (AO) pilots. Aside from a little bit of luck, the reason for this was because I flew low level anywhere and everywhere, every chance I got. On several occasions, superior officers threatened to take my aircraft commander (pilot in charge) orders because I was a “cowboy and unsafe.” Admittedly, at the time I was a young whipper snapper, un­ daunted by threats. After LAM­ SON 719, however, many pilots who routinely flew low level were to a large degree vindicated. NOE flying techniques were officially reinstated to aviation training around 1975. Actually NOE flight tactics were being developed at the Aviation Center, Ft. Rucker, in the late 1950s and early 1960s, but were somehow dropped during the Vietnam era.

The rest of this section consists of reflections that I believe are worth passing on to other aviators and to Army planners.

If we are ever called upon to do the jobs we are trained for in combat, it’s important to realize how much more a part of “living history” each of us becomes. While I was in Vietnam I took several hundred photographs with a 35 mm camera, but that wasn’t enough. I wish I had done more. Remember: Save! Save! Save! Keep a daily diary. Have family members save and return your letters. Keep track of names and addresses of your compatriots and file important documents and maps. Collect patches and other memorabilia—they all will mean much more later on, even though it may not be apparent now.

When you are under fire in a mid-intensity battle, there is no time to read a map or thumb through a CEOI (Communications-Electronics Operation Instructions) looking for radio frequencies and call signs. A good AO pilot memorizes a map in less than a week. When an aviator is given a mission sheet it includes at least one frequency and call sign. In a high threat environment if proper communication and LZ confirmation cannot be established the sortie should be aborted. This
does not mean that aviators should be cavalier, dogmatic or uncooperative with the units supported. The highest value anyone can subscribe to in combat is “mission integrity.” Use your usually superior radio communications capabilities and command training and experience to effect better coordination in the rear area. This enables missions to move smoothly where it can count the most—in battle.

Generally, there are two types of aviators when bullets start flying. All of us experience a lot of anxiety, but some have a facilitating anxiety and actually fly more precisely. Others have a debilitating anxiety and overtorque or overcontrol their aircraft in an instant. You can never distinguish aviators with the debilitating type of anxiety until they actually get into a serious combat or emergency situation. Once such aviators are identified, and if they must remain as AO pilots, they are better off being co-pilots, and being purposely paired with aviators who do well under pressure.

All of us respond differently to anxiety in combat, regardless of our type. During the few occasions when I truly feared for my life (all of which occurred in Laos during LAMSON 719) I was particularly calm and confident. Yet, away from the danger, I quivered so badly the copilot had to take the controls. Upon returning to the combat situation a short time later I almost instantaneously regained my composure. A copilot you are confident with makes an even greater difference in combat. Make no mistake, combat is quite exhilarating.

During my tour in Vietnam I had two unit commanders—the best and the worst commanders I have known. The importance of the commander for unit morale and effectiveness, especially in combat, cannot be overemphasized. One serious problem arose in the selection of pilots in command (PICs). The good commander allowed the PICs of each platoon to select when their copilots would be given PIC status. Three months in-country and at least 300 flying hours were requirements. The “other” commander personally selected PICs and made all commissioned officers PICs and flight leaders regardless of their experience. One captain with less than 1 month in-country was at the controls leading a flight into an LZ when enemy fire was taken. The inexperienced aviator immediately overtook the aircraft, requiring a major powertrain overhaul. The other commander, himself on another mission, stretched the four bolts that attach the tailboom to the rest of a UH-IH by habitually flying out of trim when trying to be an air mission commander. There are more stories: some real horror stories that end tragically. But the point is that poor commanders demoralize and reduce combat effectiveness of even previously superior performing units—and they do it in a hurry! If you are fortunate, a good subordinate leader can take charge and help restore unit integrity.

In developing its weapon systems, Army Aviation places greatest emphasis on types and sophistication of Communist air defense assets and helicopter air-to-air capabilities. This is fine, but the highest probability for future battles is at the low-intensity level where such weapons will be less of a factor. I contend, however, that regardless of the adversary or the level of conflict, in any future battles more aircraft (especially helicopters) will still be lost to small arms fire than to any other weapon system. Foot soldiers or terrorists and their rifles will continue to be Army Aviation’s most serious threat. This will be even more applicable to fluid battlefields where small unit terrorist cells could attack targets anywhere.
Let's not forget that on the battlefield foot soldiers make the greatest difference. Only they can effectively take, hold and control terrain. In current air-land battle doctrine Infantry, Armor and Field Artillery soldiers would not do so well without Army Aviation, the newest member of the maneuver arms. But, neither can Army Aviation succeed without the integral efforts of the combined arms team. The principal mission and duty of Army Aviation remains: To assist the maneuver force to accomplish its objectives by serving at all levels as combat, service and support arms of the combined arms team!

I believe the most significant combat multiplier in the Vietnam War was civil-military affairs. Understanding the cultural influences and characteristics of the people is critical—they are every bit as important as knowing the terrain, especially in a low-intensity conflict. We could win every major battle then lose the war by failing to win the hearts and minds of the people we seek to defend, and by lacking the advocacy of Americans who must support us.

Unfortunately we failed to inform the American public, and as a result most soldiers who went to Vietnam were not aware of the purposes and objectives of the war. We served in Vietnam to protect the freedoms of a nonviolent, communal culture against a counter-cultural, oppressive and atheistic force. We were the country that could save the "wimp from the town bully." Our purpose was honorable and justifiable—but somehow we lost sight of it.

Most people are not aware of the significant impact the culture of the Vietnamese people had on daily military operations. I've been to the Aviation Officer Advanced Course in the past year, and I have talked to many of the instructors of the Officer Basic, Precommand and Warrant Officer Career Courses. The content of these courses is excellent, but there is a noticeable de-emphasis or failure to recognize the importance of civil-military affairs and culture or demography (loosely, the geography of people) and how they influence military operations. This is particularly true in the intelligence planning of the battlefield process where such factors are not even given a sentence's worth of lip service.

Simply put, the more one knows about the Vietnamese and their culture, the easier it is to understand the Vietnam War. I'm sure that soldiers who fought in Korea, Lebanon and Grenada would agree with me about how important civil-military affairs are to the success of military campaigns.

In these last three issues of this magazine I have attempted to provide a "peek" through a small window at Army Aviation's first sustained and significant encounter with mid-intensity combat—LAMSON 719; there is much more that many more people could bring up about (specifically) the value of Army Aviation airmobile/air assault lessons learned in LAMSON 719, and (generally) how they relate to other developments in air assault tactical doctrine. As stated, the Aviation Digest is ready to print functional comments from reviewers and readers. Send in your thoughts—you'll be doing our branch a favor.

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ABOUT THE AUTHOR
After Captain Jim E. Fulbrook returned from Vietnam in 1971 he continued his Army Aviation career until 1981 as a reserve warrant officer aviator in the Delaware and New Jersey Army National Guard units. He completed a B.A. degree in psychology from Glassboro State College, and M.S. and Ph.D. degrees in biology at the University of Delaware. Dr. Fulbrook's academic background is in vision research and neuroscience. In 1981, he received a direct commission to captain in the Medical Service Corps and returned to Active Duty serving as a research scientist in the U.S. Army Aeromedical Research Laboratory, Ft. Rucker, AL. Captain Fulbrook also is a Master Army Aviator with more than 3,000 flying hours and holds an instructor pilot rating. Recently, he completed aviation refresher training and the UH-60 Black Hawk transition for assignment as an aviator in an aeromedical evacuation unit in Germany.

Captain Fulbrook is continuing to assemble references and information for further articles about LAMSON 719. Anyone who participated in LAMSON 719 and has information, photographs, negatives or other memorabilia they can share (all returnable) please contact: Captain Jim E. Fulbrook, 236th Medical Detachment, APO NY 09178. In particular, information is being sought about the "Witch Doctor Six" incident and on corroborating statistics on the battle in general.
Editor:

After just finishing glancing through the Views From Readers [VFR] section in the March 1986 issue, I have to wonder why you entitle it that when the section is mostly filled with requests for articles and back issues. Why bother printing all of that? The majority of personnel that read your publication look forward to reading letters from some grizzled old CW4 who makes more sense in one letter than all of your contributors combined. If people want back issues and you can't comply, just write them a short note, no need to publish it for the whole world to read.

Second, why not begin a new column concerning flying tips, techniques and experiences learned by senior aviators and IPs [instructor pilots] by aircraft on a monthly basis? Aviation Digest should be a forum among aviators, older to younger, experienced to less experienced, concerning issues of actual flying proficiency, technique and experiences learned. The doctrine we can get out of the field manuals, but the kind of information I'm talking about just isn't available anywhere in a published monthly forum. The Views From Readers section could be greatly improved by publishing more of this kind of information, in my opinion.

CPT Harry Helfrich
Aircraft Maintenance Platoon Leader
Norman, OK

Editor's Note: It is agreed that "how to fly," or "I learned about flying from that," are among the best and most interesting letters (and articles). The Aviation Digest publishes all that it can get, and the large majority of Aviation Digest readers are happy with what the magazine has been able to publish. The latest readership survey (1985) showed 91 percent of the readers feel the Aviation Digest is "interesting" and 93 percent say it is "informative." Concerning pure "flying experience" articles, 41 percent of the readers want the same amount now being published, 54 percent want more and 5 percent want less.

The Aviation Digest has carried "I learned about" type columns or departments at various times during the last 25 years. But in each case, the sources of such columns were not able to sustain them on a monthly (or even bimonthly) basis. It has been necessary to publish flying experience information as individual articles.

The Aviation Digest prints letters requesting back issues because over the years it has become clear that many readers have missed certain issues for one reason or another. When they read the VFR letter, they find that they have a need for the article they missed and write requesting it. If an Aviation Digest article (no matter how or when a reader receives it) can help one person do his or her job better, or if it helps save a life or prevents an accident, it is well worth the time, money and effort required to print the letter. If people have no need to request an article they read about in the VFR column, they can just pass over the letter.

CPT Helfrich's criticism may be the result of what he saw in the March 1986 Aviation Digest. There were two letters printed that each asked for copies of the same series of articles. Only one letter should have been printed.

In the March 1986 issue, the Aviation Digest printed CW2 Carlander's letter, which listed back issues he needed, because we do not have any of the requested issues. But, CW2 Carlander's "open letter" request to the field should get him most, if not all, of the issues he needs. Again, if any of the issues he requests help him do his job better it is worth publishing his open letter to the field.

The March VFR also carried a request from a Marine unit asking to be placed on the Aviation Digest official mailing list. By printing this letter with its response we have told a lot of other Marine units how to get the Aviation Digest. Also, the continued increase in Aviation Digest circulation can be attributed, at least in part, to publishing "how to get the Aviation Digest" material.

Hopefully this editorial note answers CPT Helfrich's question. "... why bother printing all of that?" Indeed, rewards for any bother incurred are great.

Maintenance is the magazine's weakest field. Perhaps a professional CW4, or a sage NCO, could write the Aviation Digest a piece incorporating tips, techniques and experiences learned over the years in Army Aviation maintenance. Such an article certainly would be functional to many younger soldiers working in aviation maintenance. The Aviation Digest would be happy to receive articles from the 244th as well as other maintenance units.

Editor:

During a recent conference at Ft. Leavenworth, two items of confusion arose concerning joint air attack team (JATT) operations.

First, the term air battle captain (ABC) is outdated; it should be aviation commander. Prior to the formation of the Army of Excellence (AOE)
1 Task Force 1-112, MG Ellis D. Parker
2 LAMSON 719, Part III: Reflections and Values, CPT Jim E. Fulbrook, Ph.D.
14 Views From Readers
16 A Matter of Record
20 PEARL'S
22 The Aviation Soldier—The Key to Your Success!, COL Eugene H. Grayson Jr.
28 Potential Hazard for Aviators Flying With Night Vision Goggles, Dr. John K. Crosley
30 DES Report to the Field: National Guard and Army Reserve Instructor Pilot/Standardization Instructor Pilot Seminars, CPT William Weber and CPT Thomas Bagot
32 Aviation Personnel Notes: Noncommissioned Officer Education System; Clearances for Classified Training; Get Promoted on Time
34 Maintenance Specialization—A Combat Multiplier, or a Combat Inhibitor?, MAJ (P) Stephen J. Snow and CW3 Gerard F. Franklin
36 Army Aviation Museum: L-20A (U-6)
37 Strike Deep and Win!, COL Marvin E. Mitchiner Jr.
42 Put a Little Light on the Subject, CW4 Charles F. Koranda

Back Cover: ATC Action Line: Air Crash Search and Rescue Maps, Mr. Thomas J. Callahan Jr.

Cover: Those soldiers who served in Vietnam will find the cover reminiscent of that time. "LAMSON 719, Part III: Reflections and Values" begins on page 2.

Cover illustration by Paul Fretts.