By JAMES D. SPRINKLE

THE HUEYCOBRA IN VIETNAM

Conceived and independently funded by Bell Helicopter as a private venture, construction of the prototype HueyCobra, the Model 209, was begun under stringent company secrecy in the Spring of 1965. By 4 September of that year the prototype had been rolled out of the experimental shop and exactly two years later, the AH-1G, as the production versions were to be designated, saw its first combat action in Vietnam.

While the first production AH-1Gs began entering the Army inventory during the late Spring of 1967, ground work for their arrival started the preceding year. In order to facilitate the incorporation of the AH-1G into service, the Army Aviation Material Command,[1] as part of its New Equipment Training (NET) Program, began the formation of the AH-1G New Equipment Training Team (NETT) at St. Louis, Missouri, on 1 August 1966. The Project Officer and Team Leader was Major Paul F. Anderson.

By April 1967 most of the Team's military personnel had been assigned and the unit began its duties at the Bell Helicopter plant in Fort Worth, Texas. The Mission of the AH-1G NETT was two-fold. The first order of business was to familiarize themselves with the new aircraft so that they could pass that knowledge on to cover 300 other Army personnel who would themselves become AH-1G instructors at the various Army schools designated for HueyCobra training. During this training period NETT members had the opportunity to observe first hand the construction of the two pre-production aircraft as well as the first production examples along with the various mechanic and pilot training aid devices. In many cases, team members were able to suggest production changes to the aircraft while the machines were still on the assembly line. Also the team was very active in the various Army qualification trials needed to verify the aircraft for service.[2]

By August 1967 this first portion of their mission was completed and on the 28th of that month, the NETT, with six AH-1Gs and one UH-1D/H departed Fort Worth's Greater Southwest International Airport for Vietnam and their new home at Bien Hoa. Here they were to begin the second phase of their mission; on site training for personnel of the first Vietnam based units to receive the AH-1G. Intended as an interim measure until the Army's school system could begin to turn out qualified personnel in sufficient numbers, the NETT was programmed only for a 12 month tour of service in Vietnam, barring unforseen complications.

The HueyCorba began its first flight in Vietnam on 31 August at 1707 hours with LTC Anderson and Major Nick Stein at the controls. Four days later, 4 September, the AH-1G recorded its first combat action when 66-15263, flown by MG George P. Seneff, Jr.[3] and CW2 J. D. Thomson, on a routine flight happened upon a fire-fight 10 miles NE of Can Tho City in the Mekong Delta. Anxious to put the HueyCobra through its paces for a first hand evaluation of its effectiveness, General Seneff and Warrant Officer Thomson joined in with UH-1 gunships already on the scene and engaged the enemy force which was hiding on a small island. After several passes by the gunships, the Viet Cong fled the island in a number of small boats with the helicopters in quick pursuit. Singling out one boat, General Seneff and CW2 Thomson repeatedly raked the vessel with the HueyCobra's remaining rockets and its minigun. Although officially credited with 4 Viet Cong killed in action and one sampan destroyed; LTG Seneff couldn't recall in 1974 that he ever did get a direct rocket hit on the boat and after the vessel went awash, from the HueyCobra's minigun fire and rocket near misses, the enemy "disappeared," their fate actually unknown, at least to the pilots involved. But regardless, the HueyCobra had received its baptism of fire. For General Seneff the action had special significance; two years earlier, as Director of Army Aviation, he had waged a hard and often bitter fight for the aircraft against very stiff opposition within the Army's higher command organizations.[4] Although it was an act of fate that put General Seneff in the center of this first combat action, his faith and expectations of the HueyCobra were borne out.

In late September, the 334th Armed Helicopter Company became the first combat unit to operate the HueyCobra when its 1st Flight Platoon, "Playboys", began exchanging their UH-1Cs for the new gunships.[5] The first offical combat mission was flown on 8 October when two "Playboy" AH-1Gs escorted a combat assault of ten troop laden UH-1s from the 118th Assault Helicopter Company.

Early field reports generally confirmed the Army's confidence in their new helicopter. Increased maneuvering G load and speed,

(Opposite left) A brace of AH-1Gs from A Troop, 1st Squadron (Air), 9th Cavalry, 1st Cavalry Division (Airmobile) in northern South Vietnam during September 1968. Note both aircraft are equipped with the early, single weapon, turret. USMC A192199

(Left) HueyCobra from the AH-1G New Equipment Training Team (NETT) on the line at Bien Hoa, circa 1967. Aircraft carries the experimental camouflage which the NETT had hoped to apply to all its aircraft, but adverse reaction by higher authorities effectively scuttled that plan. Pilot is Major Richard Jarrett, NETT Executive Officer, and in the front seat is Captain Nick Stein.

(Above) 'Patricia Ann' of C Troop, 7th Squadron (Air), 1st Cavalry streaks low over the Vietnamese countryside, April 1968. This photograph is a good illustration of the working altitudes employed by air cavalry units. US Army CC 48121

(Left) Prototype AH-1J, BUNO 157757 at the Bell plant, 1969. This rear quarter view shows to good advantage the Pratt and Whitney twin-engine pack installation. Bell Helicopter No. 274613

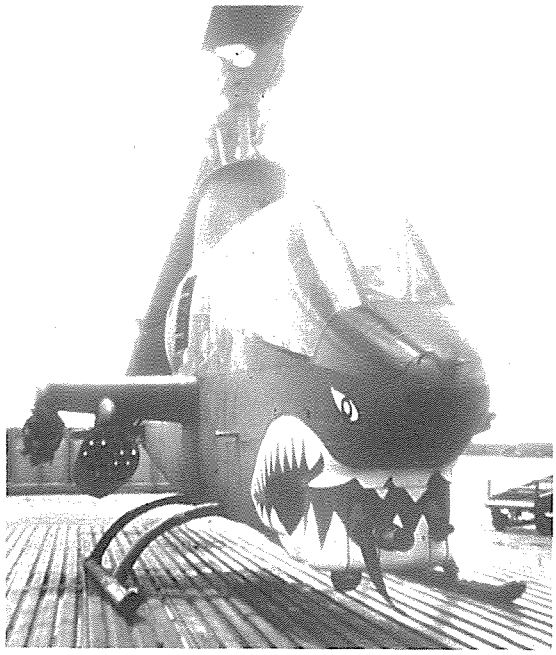
afforded by the slim fuselage, stub wings and an improved rotor system, gave gunship crews a considerable increase in their target approach dive angle and enabled pilots to significantly vary their target approach speed for the first time. One commander estimated as a result of just these two improvements, the AH-1G took 50% fewer hits than the older UH-1 gunships would under the same conditions.[6] This would appear a rather optimistic statement were it not for the fact that the UH-1 gunships, with their relatively slower speeds and broader profiles, were forced to operate at their maximum point of performance and with less than ideal tactics in order to survive. Consequently enemy gunners, after five years of conflict, had fairly well figured out how to defend against the UH-1. But the introduction of the AH-1G was another story. Utilizing the HueyCobra's speed and low profile silhouette, pilots now regularly overflew their targets after the gun run, something that most UH-1 pilots would never do. Also for the first time, they held within their hands, the ability to perform, with a helicopter, fixed wing type maneuvers.

Despite some doubts about the lack of door gunners, combat experience proved the turret provided a higher and more versitile rate of fire than was available on UH-1 gunships. Pilots of the HueyCobra NETT claimed accurate pinpoint fire, from either the turret or wing stores, from as high as 4000 feet.[7]

Early criticism was generated around both the lack of side gunners and the AH-1G's enclosed cockpit. Door gunners carried on UH-1 gunships were utilized not only to provide protective fire to the sides and below but also to observe for possible targets and warn of hostile fire. Lacking this capability, the AH-1G depended on its small profile, speed and weapons turret for protection. Even after considerable experience in the HueyCobra, many veteran gunship pilots still preferred the additional security of those two side gunners.

Adverse comments concerning the enclosed cockpit also revolved, to some extent, around hostile fire. Since the enclosed cockpit made the cabin virtually sound proof, pilots complained they were unable to tell when they were under fire until either the rounds passed close enough to hear or impacted the airframe. Eventually HueyCobra crews learned to rely on either their wing man or friendly ground forces in the area to alert them of hostile fire. Even so, this complaint would haunt the AH-1G throughout its combat life.

Additionally, early production HueyCobras were equipped with only a cockpit air blower for ventilation. However, in the very extreme heat of Vietnam, this device proved to be ineffective; in fact, 100° temperatures inside the cockpit were not uncommon occurences. Evidence of this problem had arisen not only during evaluation of Bell's Sioux Scout attack helicopter concept demonstrator but also during the NETT's early operation of the HueyCobra in Texas prior to deployment to Vietnam. As a result, the Environmental Control Unit (ECU), essentially a small, pow-



(Right) Business end of the HueyCobra. Here 66-15339 of the Weapons Platoon ("Mustangs"), C Troop (Air), 16th Cavalry shows off its fangs at Can Tho Army Airfield. August 1971.

(Opposite top) AH-1Gs of the 5th Aviation Detachment during 100-hour maintenance. Aircraft on left carries an unpodded XM-18 minigun system on its wing while 'Snake Two Three' is equipped with the XM-195 20mm cannon. Location is Vung Tau Army Air Field. September 1970. US Army SC 659342

(Opposite below) One of the first four VMO-2 AH-1Gs to arrive in Vietnam, BUNO 815080 hovers along the Marble Mountain Marine Air Facility flight line. April 1969. Robert L. Lawson

erful air conditioner, was developed and installed as a fix to this problem.

DEPLOYMENT

The AH-1G, from its earliest operations until the American disengagement, was utilized by four basic types of Army aviation units in Vietnam: the Air Cavalry Troop, Assault Helicopter Company, Aerial Weapons Company and the Aerial Rocket Artillery Battery.[8] The air cavalry troop and assault helicopter company, although different in basic organization, were similar in the type of mission they performed. Both units were basically prime movers of troops (airmobile concept) and each employed, along with their UH-1D/Hs, a weapons platoon of AH-1Gs to act as armed escorts.

In addition, the air cavalry troop also employed a scout platoon of OH-6As. In the most typical operation, the HueyCobra was paired with the OH-6A in a hunter-killer type arrangement that found the OH-6A down low scouting targets for the higher flying HueyCobra.

Aerial weapons companies[9] comprised three weapons platoons of six or seven aircraft apiece. These units constituted a reserve of AH-1Gs and could be called upon to furnish aircraft, with crews, to other units who were unable to fulfill their mission with their integral aircraft. In addition, the aerial weapons units always maintained several AH-1Gs on a 24 hour alert as a ready reaction force. Also they supplied aircraft as escorts for CH-47s and CH-54s engaged in heavy lift operations and generally provided firepower on an on-call basis.

The aerial rocket artillery (ARA) battery[10] was a unique concept, developed as a flying artillery battery to give support to airmobile units that were beyond conventional artillery range. Such batteries, as originally outlined, were comprised of three platoons of four aircraft each. The ARA HueyCobras generally carried the maximum wing arament, four 19 shot rocket pods, and released their ordnance from a higher altitude than other armed helicopter units.

It should be noted that the roles outlined above were not rigid and in a combat situation one was as likely to find an ARA HueyCobra providing top cover for an OH-6A as an air cavalry AH-1G giving direct rocket support to troops in contact. Basically the Army AH-1G was used for direct, close fire support and armed reconnaissance whenever it was needed and by what ever unit was available regardless of that unit's basic mission.

The fundamental AH-1G flight section was, and is, the fire team, composed of two AH-1Gs; with the addition of a third HueyCobra, the section is a heavy fire team. In the jargon of the air cavalry, the AH-1G – OH-6A combination is known as a pink team; derived from the color coding given the weapons (red) and scout (white) platoons.[11]

OPERATIONS

From 1967 on, the AH-1G began supplanting the UH-1B/C as the standard Army armed helicopter in Vietnam. Some aviation units retained their UH-1 gunships for their entire tour and never operated the AH-1G and still others transitioned to the HueyCobra only a few months before withdrawing from the combat zone. Although not universally used, the AH-1G, after its introduction in 1967, was nevertheless operated by the majority of armed Army aviation elements in Southeast Asia.

The 1st Aviation Brigade, responsible for all Army non-divisional aviation in Vietnam, was the first major command unit to operate the AH-1G; both the AH-1G NETT and the 334th Armed Helicopter Company being under its jurisdiction. During the Autumn of 1968, armed helicopter units of the 1st Cavalry Division (Airmobile) began transitioning to the AH-1G following their relief of the beseiged Marine base at Khe Sanh.

The first major campaign for the AH-1G was during the TET (Chinese New Year) Offensive of February – April 1968, when the HueyCobra was instrumental in blunting the savage attacks on allied forces, particularly in the Saigon area. Some defenders against the assault on the Bien Hoa Air Force Base near Saigon credit the Army's gunships, and especially the HueyCobras of the AH-1G NETT and the 334th Armed Helicopter Company, with saving the base from being over-run. The armed helicopters were able to get airborne in the midst of heavy rocket and mortar fire that kept fixed wing aircraft pinned to their revetments. After almost twenty-six continuous hours of flying, the HueyCobras and other armed helicopters had stopped the Viet Cong attack just at the end of Bien Hoa's main runway.

During the drawn out house to house fighting which followed, both in the Cholon section of Saigon and in the northern city of Hue, the HueyCobra was often called upon to provide close support as near as 50 feet to friendly troops. Some ground commanders, whose job was to retake these occupied areas, would later compare the AH-1G's fire support capability to a tank.

With increased deployment came increased utilization and the AH-1G was later found engaged in actions both large and small; from the invasion of Cambodia in May 1970, to supporting the every day small unit actions that occured constantly throughout the Vietnamese countryside. As the American disengagement in Vietnam became a reality, the AH-1G was found flying more and more of its missions in support of the Vietnamese Army. But more importantly, as the number of American ground troops decreased, the remaining American Army installations increaseingly depended upon the AH-1G and its armed UH-1 cousins for protection.

Probably the greatest challenge the AH-1G faced in Vietnam came during the combined Viet Cong, North Vietnamese offensive of the Spring and Summer of 1972. It was during this period that the North Vietnamese decided to commit substantial armored forces directly to the battlefield. The seige of An Loc probably best exemplified the HueyCobra – tank confrontation.

From 30 March until 11 May, AH-1Gs of F Battery, 79th Aerial Field Artillery, 3rd Brigade (Separate), 1st Cavalry Division, flying in the vicinity of An Loc, were credited with destroying or immobilizing over 20 tanks plus damaging a large assortment of other type vehicles and positions.[12] This was achieved with the Army's 2.75 inch rocket and a rather sophisticated antiaircraft environment which included radar directed 37 mm guns and the SA-7 missile.[13]

Flying in Military Region 1 (the northern most of the four military regions of South Vietnam) during this same time, AH-1Gs of the Army's 11th Combat Aviation Battalion provided escort and armed scout support for the South Vietnamese forces attempting to halt the thrust of the North Vietnamese across the Demilitarized Zone. It was here that the Russian designed SA-7 missile was used for the first time. At least two AH-1Gs are known to have been downed with this weapon.[14]

During the design of the HueyCobra, an attempt had been made to reduce the infared exhaust signature by wrapping the exhaust pipe with a thermal blanket and channeling cooling air along the pipe to dissapate the heat. However, the success of the SA-7 caused the Army to modify both its helicopters and tactics. The AH-1G was fitted with a special exhaust cap which directed the hot exhaust gases up, dissipating into the main rotor's downwash, instead of back along the tail boom.[15]

In addition, the threat of the SA-7 forced Army helicopters to operate at much lower altitudes than they had been previously accustomed to. This caused some constriction in the successful utilization of the AH-1G by limiting the effectiveness of its wing stores. The AH-1G was, in most respects, the culmination of combat experience with the armed UH-1A, B and C in Vietnam. This experience dictated the diving type of attack by armed helicopters on their targets. The AH-1G thus had a great deal of superelevation designed and built into its wings and weapons stores. By forcing the HueyCobra to operate at a lower altitude, the North Vietnamese Army (NVA) negated to a considerable degree, the usefulness of the AH-1G as a direct fire support weapon.[16]

THE MARINE MODEL 209

Although the Marines have long advocated the helicopter as an assault vehicle, they didn't deploy armed helicopters until April 1965, almost exactly three years after HMM-362 first landed on the small, ex-Japanese airfield at Soc Trang.[17] During these early operations from Vietnam's Mekong Delta the Marines occasionally utilized the T-28s of the South Vietnamese Air Force for escort and landing zone (LZ) preparation when the situation warranted. But in most cases the only firepower available was the crew members' individually carried weapons. In mid 1962 the Marine operation were transferred from Soc Trang, north to Da Nang.

Here the Marine aviators found a more determined enemy who were also much better equipped than their colleagues in the Mekong Delta. In early 1963 the 1st Platoon of the Army's Utility Tactical Transport Helicopter Company, with its armed UH-1As, was sent on a test basis from Tan Son Nhut Airport at Saigon to provide escort for Marine UH-34s operating in the northern provinces of South Vietnam. Originally skeptical about the value of armed helicopters, the Marine pilots very soon discovered the hit rate diminished considerably when escorted by the gunships. The tactic used most often incorporated fixed wing aircraft in making the initial LZ preparation with the gunships following up just ahead of the troop helicopters. A similar tactic, called the "super gaggle", was successfully employed during the seige of Khe Sanh in early 1968 in support of Marine resupply helicopters.

March 1962 found the Bell Helicopter Company winners of a Marine Corps sponsored design competition for an assault support helicopter. Bell's design, designated as the UH-1E, was in effect a UH-1B aircraft equipped with Marine required components. The E Model first flew during February 1963 and became operational with MAG-26 at MCAS New River one year later, 21 February 1964. The UH-1E was deployed to Vietnam during April 1965 and armed versions initially were equipped with the XM3 gun system, two XM157 rocket pods and cargo door gunners. The UH-1E was utilized for armed escort and reconnaissance, for command and control of air and ground units, liaison duties and medical evacuation.

The Army deployment of the AH-1G to Vietnam during 1967 was closely observed by the Marine Corps in an effort to determine if this type aircraft could be effectively utilized within Marine aviation assets. After the initial success of the Army HueyCobra, the Marine Corps approached Bell Helicopter concerning the feasibility of adopting the Bell Model 209 to twin engines, a requirement the Marines considered essential to their largely overwater environment. On 29 May 1968, the Marine Corps ordered an initial batch of 49 advanced Model 209s, designated as the AH-1J SeaCobra.

SEACOBRA

The AH-1J, besides being slightly larger overall, differs from the AH-1G mainly in its avionics equipment and powerplant. The aircraft is powered by a Pratt and Whitney 1800 horsepower T400-CP-400 coupled turbo shaft engine pack and a large portion of the dynamic components are the same used in the twin engine UH-1N utility helicopter.

The standard wing store points are retained but the turret houses an XM-197,[18] 3 barrel, 20 mm gun with 750 rounds of ammunition in the ammo bay. Also the vertical fin structure has been reinforced to absorb the loads imposed by an improved, wide chord tail rotor.

The first of three prototypes, Bureau Number 157757 (Bell serial 26001), made its first flight early in October 1969. Deliveries of the first production AH-1Js began in June 1970 and continued through the following December. Formal Board of Inspection and Survey (BIS) trials were begun at NAS Patuxtent River during August 1970 and continued until 1 March 1971. Four aircraft,

BUNOs 157758, 157759, 157760 and 157761, were utilized at various times and for various tests during these trials.[19] All three prototypes were eventually reconfigured and brought up to production standards.

OPERATIONS

As an interim measure, 38 AH-1Gs were diverted to the Marines during 1969 pending delivery of the SeaCobra. Marine pilot transition training was conducted initially by the Army in Vietnam and at the Hunter Army Airfield, Fort Stewart, Georgia. The first four Marine HueyCobras became operational in Vietnam with VMO-2, 1st Marine Air Wing (MAW), at Marble Mountain Air Facility near Da Nang during mid-April 1969. The aircraft were BUNOs 815073, 815079, 815080 and 815085. BIS trials, conducted with AH-1G 815072, began 10 May 1969 and ended 11 August 1969.[20]

While the Marines used the AH-1G for escort and direct fire support in a manner similar to the Army's concept, VMO-2 also initially deployed the HueyCobra in the armed observation role, alongside the OV-10A. Eventually the AH-1G assumed a major portion of the armed UH-1E's duties. In December 1969 the helicopter assets of VMO-2 were detached and reassigned to the two light helicopter squadrons at Marble Mountain; HML-167 with the UH-1E and HML-367 flying the AH-1G.

The AH-1J was deployed to Vietnam on a trial basis in time to participate in Operation Lam Son 719 (February – April 1971), the Vietnamese incursion into Laos. Four SeaCobras, BUNOs 157762, 157764, 157772 and 157774, arrived in country on 17 February 1971 and were assigned to HML-367 with their first mission flown on 2 March. Initially, the standard wing armament for the SeaCobra in Vietnam was four, seven shot, XM157 or XM158 rocket pods. Because of the mountainous terrain in which the aircraft was operating and the fact that it was still a relatively untried machine, mission weights were not allowed to approach the maximum gross weight. As an additional safeguard, one AH-1G and one AH-1J were most always paired together when deployed operationally.[21] A large portion of the Lam Son 719 missions were as escorts for CH-53s engaged in heavy lift operations. By 26 May 1971, the last Marine air units, including all AH-1Gs and AH-1Js, had begun stand down from combat operations.

However, during the North Vietnamese offensive of 1972, the Marines again deployed the AH-1J to Vietnam. A detachment of SeaCobra from HMA-369 at MCAS Futema, Okinawa, was dispatched initially aboard LPD-9 Denver on 20 June 1972. The AH-1Js were utilized principally to interdict waterborne traffic along the coast in support of the American naval blockade, and also performed as Forward Air Control (FAC) for carrier aircraft. The detachment subsequently operated from both the USS Cleveland (LPD-7) and USS Dubuque (LPD-8). Operations in Vietnamese waters was terminated on 18 January 1973 and the detachment of SeaCobras returned to its parent unit at MCAS Futema.[22]

Thus ended the Marine Corps' combat deployment of the AH-1G and its twin engine companion the AH-1J. When the HueyCobra was first considered for purchase by the Marines, there were those who expressed doubts about the aircraft's usefulness. Their concerned centered around the same points which had initially worried some Army pilots; the lack of door gunners with the subsequent loss of suppressive fire capability and the enclosed cockpit which tended to decrease a pilot's ability to pin-point the sound of hostile fire.[23] There were also fears in some quarters that the HueyCobra's lack of versatility, its inability to carry troops or cargo, would make the aircraft an expensive liability to the Corps rather than an asset.[24]

But as their service experience with the aircraft increased, the Marine pilots soon discovered the HueyCobra was superb in its attack mission, being able to put heavier firepower on a target, quicker and with more accuracy and safety than the armed UH-1E. Introduction of the AH-1J to active combat operations in 1971 was the culmination of a complete reversal in thinking by the Marine Corps, from a policy of no armed helicopters in 1964 to the deployment of a specialized attack helicopter. While the Marines were not committed to helicopter operations on a scale as vast as the Army's, the experiences of Vietnam did earn a permanent place within Marine aviation for the attack helicopter.

EPILOGUE

The necessities of Vietnam resulted in the development of several new aerial weapons as well as adaptation of some older ones. A logical progression from the armed utility helicopters, the attack helicopter, as it is known today, owes its existence directly to the war in Vietnam. The environment peculiar to Southeast Asia accelerated its development out of the cobwebs of individual invention into the world of modern aerodynamic design.

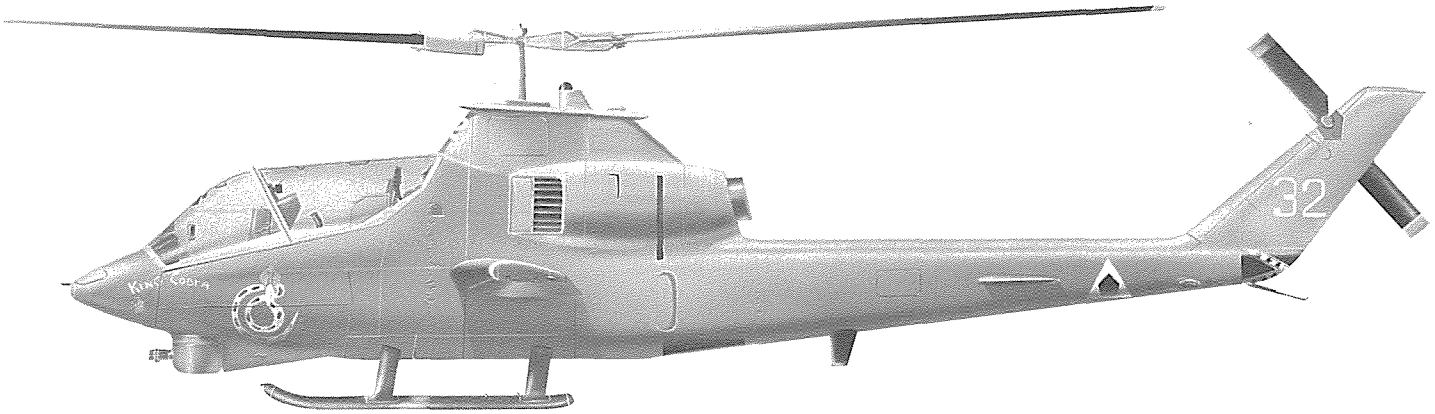
The AH-1G HueyCobra, the first true attack helicopter to be operationally deployed, was utilized in Vietnam in a variety of roles: as Aerial Rocket Artillery, giving support to units too remote to be covered by the big guns: as the killer element of a hunter-killer team, flying cover for that ubiquitous hunter, the OH-6A; as an escort for utility and cargo helicopters; as a ready reaction force responding to the sudden need for heavy and immediate firepower that so characterized the Vietnamese ground war; as an armed reconnaissance aircraft and, on more than one occasion, as a makeshift air rescue vehicle, pulling downed aircrews and endangered soldiers from the jungle by flying them out on its rocket pods or ammunition doors. Its ruggedness and dexterity in combat is testified to by the fact that out of 942 AH-1Gs delivered to the Army by 28 September 1971, 71% were still active in 1972.[25]

Originally purchased as an interim machine pending development of the Advanced Aerial Fire Support System (AAFSS), the AH-1G was destined to far surpass and survive its would-be successor. The HueyCobra was not, by far, the most sophisticated weapon system to evolve from the Vietnam war. But this simplicity was also probably its chief advantage, for the HueyCobra was a highly dependable and reliable machine, capable of absorbing considerable punishment and still complete its mission. It brought to the American soldier one of the few advantages he was to enjoy in this conflict, an airborne fire support vehicle which could follow him directly into the field and respond to his needs immediately and decisively.LTG John J. Tolson, writing in *Airmobility 1961-1971,* part of the Army's Vietnam Studies series, stated: "There is no doubt that from a hardware standpoint, the armed helicopter was the single greatest innovation of Vietnam . . . The introduction of the Cobra[26] into Vietnam vindicated all the hypotheses of the armed helicopter pioneers who were derided in their early experiments. The Cobra came at the right time in sufficient numbers to do a job that no other fire support means could do." This then is the AH-1G's Vietnam epitaph. The Army accepted its last HueyCobra, serial number 71-21052, in February 1973.[27]

Serial Numbers of all Bell AH-1G HueyCobras delivered to and entering the US Army inventory:

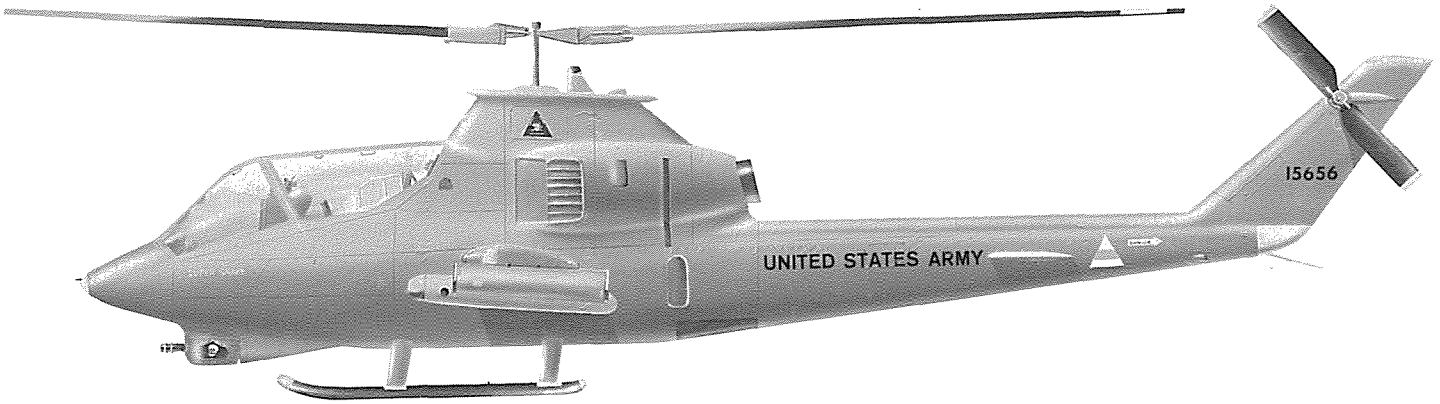
66-15246 thru 66-15357	68-17020 thru 68-17022
67-15459 thru 67-15849	68-17024 thru 68-17026
67-15851 thru 67-15869	68-17028 thru 68-17040
68-15000 thru 68-15036	68-17042 thru 68-17044
68-15040 thru 68-15044	68-17046 thru 68-17048
68-15047 thru 68-15071	68-17050 thru 68-17061
68-15074 thru 68-15078	68-17063 thru 68-17065
68-15081 thru 68-15082	68-17067 thru 68-17069
68-15084 thru 68-15103	68-17071 thru 68-17081
68-15106 thru 68-15111	68-17083 thru 68-17085
68-15114 thru 68-15133	68-17087 thru 68-17089
68-15135 thru 68-15139	68-17091 thru 68-17100
68-15141 thru 68-15164	68-17102 thru 68-17104
68-15166 thru 68-15169	68-17106 thru 68-17107
68-15171 thru 68-15175	68-17109 thru 68-17113
68-15177 thru 68-15189	69-16410 thru 69-16447
68-15191 thru 68-15193	70-15936 thru 70-15999
68-15195 thru 68-15197	70-16000 thru 70-16105
68-15199 thru 68-15212	71-20983 thru 71-21052

NOTE: List includes aircraft coverted to the TH-1G configuration.



COILED KING COBRA MOTIF: WHITE WITH BLUE SPLOTCHES, HEAD, YELLOW AND RED
REAR FUSELAGE INSIGNIA: WHITE TRIANGLE WITH BLUE PENTAGON CONFEDERATE FLAG MOTIF
FIN ON LOWER FUSELAGE AND ADJACENT PATCH: BLACK
NOTE: #32 REPEATED ON FRONT OF ENGINE COMPARTMENT ABOVE CANOPY

AH-1G, SERIAL NUMBER UNKNOWN. "KING COBRA" WEAPONS PLATOON ("COBRAS"), 114th ASSAULT HELICOPTER ("KNIGHTS OF THE AIR"), 214th COMBAT AVIATION BATTALION
VINH LONG AAF, RVN, JUNE, 1971



AH-1G 67-15656 "SUPER SNAKE" 2nd FLIGHT PLATOON ("DEATH DEALERS"), 235th AERIAL WEAPONS COMPANY ("DELTA DEVILS"), 307th COMBAT AVIATION BATTALION
CAN THO AAF, RVN, APRIL, 1971

SQUADRON INSIGNIA DETAILS: DEATH DEALER: BLACK AND WHITE. DELTA DEVILS TRIANGLE: BLACK WITH WHITE LETTERING, RED SURROUND OF TRIANGLE
NOTE: "DELTA TO DMZ" APPEARS IN ARC, WHITE LETTERING ON FRONT OF ENGINE COMPARTMENT, ABOVE CANOPY

AIRCRAFT: MARINE SEA GREEN
ALL ROTORS: OLIVE, YELLOW TIPS
LETTERING: BLACK, EXCEPT "21" WHICH IS WHITE, ON TAIL
VENTRAL FIN AND ADJACENT PATCH, BLACK
COBRA NOSE MOTIF: ***BELIEVED*** TO BE BLACK AND WHITE

AH-1G, BUREAU NUMBER UNKNOWN, HML-367, MARBLE MOUNTAIN MARINE AIR FACILITY, RVN, 1970

The following list was compiled from official government documents and shows a total of 319 Army AH-1Gs on inventory in Vietnam a full year before the complete American disengagement. At this particular time, large scale troop withdrawals were in progress and at least three of the combat units listed here are known to have been engaged in stand-down operations. The relatively large number of aircraft assigned to support units can be considered as indicative of the troop withdrawal, in that units scheduled for deactivation and retirement have turned in their aircraft for major repair, overhaul or shipment back to the United States.

AH-1G in VIETNAM by UNIT

January 1, 1972

F Troop, 4th Cavalry

67-15521, 67-15567, 67-15652, 68-15012, 68-15100, 68-15160, 68-15197, 15201, 69-16439, 69-16446

Air Cavalry Troop, 11th Armored Cavalry Regiment

67-15669, 67-15716, 68-15067, 68-15083, 68-15095, 68-15122, 68-15131, 68-15169, 69-16423

Aviation Section, Headquarters, 164th Combat Aviation Group

67-15502

60th Assault Helicopter Company

66-15258, 67-15505, 67-15528, 67-15801, 68-15205, 69-16442

48th Assault Helicopter Company

67-15510, 67-15606, 67-15608, 68-15027, 68-17056, 68-17092, 69-16445

129th Assault Helicopter Company

66-15304, 67-15459, 67-15544, 67-15738, 68-15094, 68-15157, 69-16433

175th Assault Helicopter Company

67-15578, 67-15762, 67-15775, 68-15092, 68-15166, 68-15207

5th Aviation Detachment

66-15316, 67-15513, 68-15054, 68-15084, 68-15106, 68-15204

C Troop (Air), 16th Cavalry

66-15328, 67-15460, 67-15617, 67-15742, 15767, 67-15823, 68-15035, 68-15156, 68-17067, 68-17074

187th Assault Helicopter Company

67-15456, 67-15565, 68-17075

57th Assault Helicopter Company

66-15317, 67-15490, 67-15512, 67-15555, 67-15750, 68-15058, 68-15143, 68-15158

114th Assault Helicopter Company

66-15322, 67-15540, 67-15574, 67-15587, 67-15842

173rd Assault Helicopter Company

67-15509, 67-15548, 67-15682, 67-15792, 67-15797, 68-15089, 68-17068, 68-17096

238th Aerial Weapons Company

67-15503, 67-15740, 67-15766, 68-15031, 68-17028, 68-17031

334th Aerial Weapons Company

66-15321, 66-15342, 67-15457, 67-15494, 67-15546, 67-15640, 67-15754, 67-15813, 67-15819, 67-15837, 68-15014, 68-15016, 68-15049, 68-15110, 68-15123, 68-15126, 68-17040, 68-17044, 68-17080

196th Light Infantry Brigade

Subordinate units: Believed to have been F Troop, 8th Cavalry; and at least one other, as yet unidentified, aviation unit.

66-15261, 67-15639, 15648, -15650, -15665, -15668, -15714, 67-15834, 68-15011, -15030, -15189, =17033, -17034, -17078, 68-17098, 17111, 69-16420, -16440, -16447, -16447

7th Squadron (Air), 17th Cavalry

Subordinate units: A, B and C Troop

66-15292, 67-15491, -15603, -15607, -15626, -15627, -15629, 67-15675, -15715, -15747, -15822, 68-15047, -15076, -15101, -15103, -15144, -15195, 68-17020, -17026, -17036, -17043, -17076, -17084, 68-17088, -17113

7th Squadron (Air), 1st Cavalry

Subordinate units: A, B and C Troop

66-15330, 67-15495, -15496, -15522, -15536, -15619, 67-15687, -15721, -15722, -15731, -15759, 67-15764, -15785, -15827, 68-15069, -15090, -15196, -17060, -17063, 69-16422

3rd Squadron (Air), 17th Cavalry

Subordinate units: A, B and C Troop

66-15341, -15354, 67-15486, -15589, -15646, -15656, -15693, -15717, 67-15773, -15800, -15838, -15852, 68-15015, -15068, -15096, -15179, -17042, 69-16429, -16437, -16443

101st Airborne Division (Airmobile)

Subordinate units: D Troop, 3rd Squadron, 5th Cavalry; and elements of the 2nd Squadron (Air), 17th Cavalry.

66-15302, -15346, -15348, -15350, 67-15465, -15469, -15508, -15524, -15551, -15563, 67-15572, -15577, -15595, -15621, -15647, -15649, 67-15690, -15697, -15708, -15784, -15790, -15794, 67-15802, -15833, -15844, -15859, 68-15013, -15048, -15066, -15093, -15167, -15212, 68-17058, -17065, -17103

3rd Brigade (Separate), 1st Cavalry Division (Airmobile)

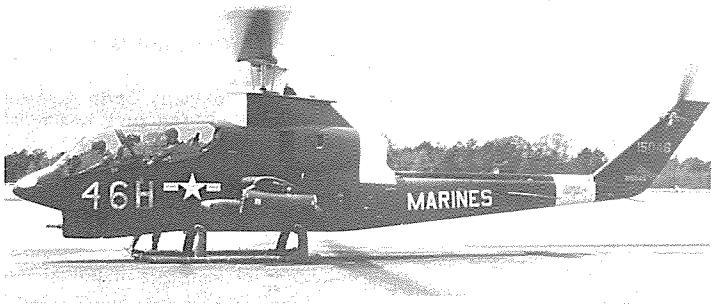
Subordinate units: D Company, 229th Assault Helicopter Battalion; B Troop, 1st Squadron (Air), 9th Cavalry; F Battery, 79th Aerial Field Artillery.

66-15307, -15312, -15331, -15345, 67-15477, -15531, -15564, -15570, -15594, -15600, 67-15633, -15670, -15701, -15718, -15725, -15804, 67-15836, -15840, -15869, 68-15009, -15017, -15021, -15055, -15117, -15147, 68-15149, -15172, -15182, -15183, -15202, -17048, 68-17064, -17077, -17104, -17107, 69-16431

(Left) AH-1J, BUNO 157791 of HML-267, tied down at NAS Noris, California, in October 1971. In the background is the twin-engine Bell UH-1N from which many AH-1J dynamic components were derived. Robert L. Lawson

(Below) AH-1G from HML-367 departs Landing Zone (LZ) 400 near Da Nang, June 1970. Aircraft carries the same armament configuration used by most Army Huey-Cobras. The snake design on the nose is believed to be a unit marking of HML-367's HueyCobras. USMC A373235

(Below) Marine Corps pilot transition training in AH-1G 815046 at Hunter Army Airfield, Fort Stewart, Georgia. Mid 1969. The large numbers and light-colored areas on the forward fuselage are day-glo orange with the standard yellow tail rotor warning strips around the tail boom. USMC A419214



142nd Transportation Company*

67-15532	68-15022
-15624	-15023
-15705	-15163
-15737	-17037
-15745	-17047
-15817	

388th Transportation Company*

66-15339	67-15452	68-15007
	-15463	-15063
	-15533	-15071
	-15599	-15091
	-15680	-15129
	-15774	-15151
	-15829	-15206
		-17024
		-17093
		-17100

611th Transportation Company*

67-15643	69-16436
-15685	

165th Transportation Company*

67-15815

604th Transportation Company*

66-15336 67-15455

605th Transportation Company*

66-15262

608th Transportation Company*

67-15851

166th Aviation Maintenance Detachment*

67-15662	68-17071
-15757	

*Support units, aircraft assigned for major repair or turn-in.

The 38 AH-1Gs supplied to the U.S. Marine Corps were provided from the on-hand Army inventory and the Bell assembly line. The Army Serial Numbers of these aircraft along with their corresponding Navy Bureau Numbers are listed below.

SERNO	BUNO[29]	SERNO	BUNO
67-15850	715850		
		68-15176	815176
68-15037	815037	68-15190	815190
68-15038	815038	68-15194	815194
68-15039	815039	68-15198	815198
68-15045	815045	68-15213	815213
68-15046	815046	68-17023	817023
68-15072	815072	68-17027	817027
68-15073	815073	68-17041	817041
68-15079	815079	68-17045	817045
68-15080	815080	68-17049	817049
68-15085	815085	68-17062	817062
68-15104	815104	68-17066	817066
68-15105	815105	68-17070	817070
68-15112	815112	68-17082	817082
68-15113	815113	68-17086	817086
68-15134	815134	68-17090	817090
68-15140	815140	68-17101	817101
68-15165	815165	68-17105	817105
68-15170	815170	68-17108	817108

Originally, Bureau Numbers 157204 thru 157241 were to have been assigned to the 38 AH-1Gs, but the Army numbers were modified for simplicity. The 49 original AH-1J SeaCobras purchased by the Marines were BUNO 157757 thru 157805.

MARINE UNITS OPERATING
the Bell AH-1G and AH1J in Vietnam

AH-1G:	AH-1J:
HML-367	HMA-369
VMO-2	HML-367
VMO-6*	

*Believed to have operated this aircraft; confirmation needed.

Sappers and satchel charges did the job on 67-15576 of A Troop, 7th Squadron (Air), 17th Cavalry at the "Golf Course" Helipad, Camp Radcliff, An Khe. Early 1970. Ralph B. Young Collection

REFERENCES:

1. Now known as the Army Aviation Systems Command.
2. Tape recording, Colonel Paul F. Anderson, to Author, February 1974.
3. Two years previously, General Seneff had been the first military aviator to fly the prototype Model 209 and at the time of this action was the Commander of the Army's 1st Aviation Brigade.
4. Tape recording, LTG George P. Seneff, Jr., USA (Ret), to Author, November 1974
5. Ramsey, Jerry A., CPT, USA. *Annual Supplement, History of the 334th Aviation Company (Attack Helicopter).* Phu Loi, RVN, 25 March 1971.
6. *Aviation Week & Space Technology,* "HueyCobra, LOHs Extend Army Support". Volume 88, 20 May 1968, page 26-28.
7. *Aviation Week & Space Technology,* "HueyCobra Praised for Vietnam Action." Volume 88, 15 January 1968, page 33.
8. The designations of these four units are primarily those used by the Army's 1st Aviation Brigade. A full definition of the various means, methods and terms used to identify and designate the Army aviation units in Vietnam is beyond the scope of this Research Project. However these four basic AH-1G aviation missions hold true as described regardless of a unit's designation of assignment.
9. These units were also known at various times and places as Armed, Attack or Escort Helicopter Companies.
10. The first unit so designeted, 2nd Battalion (ARA), 20th Artillery, 1st Air Cavalry Division, arrived in Vietnam on 15 September 1965 and initially operated the armed UH-1B. Later in the war this type unit was to be redesignated as Aerial Field Artillery (AFA).
11. The third platoon of an air cavalry troop, utilizing UH-1D/H aircraft, was color coded *BLUE.* A good description of the Army's air cavalry units can be found in Lou Drendel's *Gunslinger's In Action — Aircraft No. Fourteen,* "Gunship Tactics," page 16-24. Squadron /Signal Publications, Warren, Mich. 1974.
12. "The AH-1G Versus Enemy Tanks at An Loc," an address by MAJ Jerome R. Daily, USA, before the 83rd Annual Meeting of the U.S. Army Armor Association, Fort Knox, Kentucky, 19 May 1972. Reprinted in *Armor Magazine,* July-August 1972, page 42-43.
13. *Army Aviation,* "Missile! Missile! Missile!", CPT Michael J. Brown, USA. June 1973, page 16-20.
14. *Aviation Week & Space Technology,* "Army Plans Helicopter Changes As Strela Missile Use Continues." 17 July 1972, page 18.
15. Op Cit.
16. *Army Aviation,* "In Action with the 11th Combat Aviation Battalion", LTC Stanley D. Cass, USA and MAJ Wilbert W. Sorensen, USA. May 1973, page 43-46.
17. HMM-362 deployed from the USS Princeton on 15 April 1962 and operated the Sikorsky UH-34.
18. The XM-197 was developed from the M-61, 20mm cannon.
19. Letter, CPT W. F. Sallada, Naval Air Systems Command, to Author, 9 August 1974.
20. Op Cit.
21. This information is based partially on the Author's personal observations while serving as an Army AH-1G crew chief in Vietnam's Military Region I during March and April 1971. Verification and additional information concerning this phase of the SeaCobra's deployment is welcome.
22. *Marine Corps Digest,* May 1973, Volume 57, Number 5.
23. Letter, George Duerre, to Author, 24 March 1974.
24. "Will Cobra Hack The Load?", CPT John H. Key. *Marine Corps Digest,* March 1969, page 51. "Cobra Can Hack It", Majors Donald E. P. Miller and Benny D. Rinehart. *Marine Corps Digest,* June 1969, page 12.
25. *History of the Model 207 Sioux Scout.* Bell Helicopter Company, Fort Worth, Texas, 28 September 1971.
26. See *"Naming" The Bell AH-1G.* Journal, American Aviation Historical Society, Summer 1974, page 157-158.
27. Letter, Martin C. Reisch, Bell Helicopter Company News Bureau Manager, to Authors, 22 August 1973.
28. Although designated an Aerial Weapons Company under General Order No. 771, dated 25 November 1968, the unit was most commonly known as the 334th Attack Helicopter Company.
29. 715850 is believed to have been bailed back to Bell for development and verification of the turret and gun for the AH-1J SeaCobra.

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c. Hymoff, Edward. *The First Marine Aircraft Wing — Vietnam.* M. W. Lads Co., New York, 1969.

d. "Improved HueyCobra Readied for Marines". Erwin J. Bulban. *Aviation Week & Space Technology,* Vol 91, 2 October 1969, page 20-21.

e. Montross, Lynn. *Cavalry of the Sky.* Harper, New York. 1954.

f. Neufeld, Gabrielle M. *A Chronology of the United States Marine Corps 1965 — 1969, Volume IV.* Headquarters, Marine Corps, Washington, D.C. 1971.

g. *Rotor Breeze,* Supplement. Bell Helicopter Company, Fort Worth, Texas. September 1968, page 1-4.

h. *The Marines in Vietnam 1954-1973, An Anthology and Annotated Bibliography.* History and Museums Division, Headquarters, Marine Corps, Washington, D.C. 1974.

i. Tolson, John J., LTG, USA. *Airmobility 1961 - 1971.* Department of the Army, Washington D.C. 1973.

j. Unit history of VMO-2. Exact title and author unknown, 1973. Provided thru the courtesy of VMO-2 Public Information Officer via Robert L. Lawson, AAHS.

k. United States Naval Aviation 1910 — 1970 (NAVAIR 00-80P - 1). DCNO (AIR), Washington, D.C. 1970.

ACKNOWLEDGEMENTS

The Author is indebted to Colonel Paul F. Anderson, USA, for the loan of his personal papers, documents and photos of the AH-1G New Equipment Training Team; to LTG George P. Seneff, Jr., USA (Ret), for his rememberances of the HueyCobra and the action on 4 September 1967 and to Mike Shakocius, AAHS, for his assistance. A special debt of gratitude is extended to AAHS member Ralph B. Young for his very original and extensive research of United States Army aviation units operating in the Republic of Vietnam and his continuing support of, and interest in, RP 7234.

Assistance was also provided by Commander J. L. Akagi, Office of the Chief of Naval Operations; Captain W. F. Sallada of the Naval Air Systems Command; H. J. Burkert, Jr., Army Aviation Systems Command and Martin C. Reisch, News Bureau Manager, Bell Helicopter Company. Special appreciation is extended to two former VMO-2 members, Robert L. Lawson and George Duerre, for their memories of VMO-2 and the AH-1G. Thanks also to AAHS members Pete Mersky, Dave Ostrowski and Roland Poehlmann who went out of their way to help.