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MODERN MILITARY AIRCRAFT

# HUEY

by Lou Drendel

squadron/signal publications

# INTRODUCTION

It has been called the Jeep of the Vietnam War, a name earned through its ubiquity and utility. It has been the most recognizable of helicopters in an age when the helicopter was coming of age. The UH-1 "Huey" (nee Iroquois) has become the most produced of any modern aircraft, with over 26,000 having been manufactured to date. There is scarcely a country this side of the Iron Curtain that has not heard the distinctive "WHUMP! WHUMP! WHUMP!" that heralds the approach of one of the many versions of Huey.

It was the single most important vehicle in the development of airmobility, a concept that brought the United States to the very brink of victory in the Vietnam War. It was also the vehicle that guaranteed that the wounded of that war could reach a hospital faster than they would have after a traffic accident on the highways of America. And it was the aircraft that, more than any other, helped to develop a new breed of military pilot....the Army Warrant Officer ... a professional pilot, devoid of any command responsibility, save for that involving his aircraft.

Finally, it was one of the principal aircraft in the last-ditch evacuation of South Vietnam, providing us with some of the most vivid images of that humiliation ... pictures of South Vietnamese pilots leaping from their helicopters into the sea, while the unmanned helicopter crashed alongside ... pictures of Hueys being pushed overboard after they had delivered their cargos of fleeing Vietnamese...the decks of the rescue carriers unable to accomodate any more aircraft. The Vietnam War provided Huey with some of it's most memorable moments, but certainly not it's final moments, for the saga of Huey continues today, and is likely to last perhaps as long as any aircraft in history. And yet Huey labors in the mist of ignominy. Few, if any, books have been dedicated to its valiant career. Its performance figures do not inspire awe or great admiration ... its very designation discourages any romantic visions ... I mean, after all, how can you get excited about an airplane that is designated "Utility"? Well, it may lack the inherent glamor of fighter aircraft, but Huey is to helicopters what the DC-3 was to fixed wing transport...proof that a revolutionary concept could be turned into a routine operational reality. When the history of vertical flight is written, the career of Huey will provide one of the most important benchmarks in that history. Before Huey, proponents of vertical flight struggled to provide the reliability necessary to make helicopters practical to operate in large numbers. The operational career of Huey removed any doubt about the practical aspects of helicopter operations.

The very number of UH-1 Iroquois employed in the Vietnam War guarantees that it was witness to more acts of raw courage than perhaps any aircraft in history. This book, dedicated solely to Huey will concentrate on the operational life of Huey. The missions it flew, the people who flew it, their stories, and the markings Huey carried in its many roles.

# ROTARY WING HISTORY

The concept of vertical flight is nearly as old as man's ambition to imitate the birds. A Persian legend dating from 3,000 BC had an early king harnessing trained eagles to his chariot in an attempt to take to the air. Archimedes, the Greek mathematician, scientist, and inventor inspired a more realistic solution to the problem of vertical flight with his invention of the water screw, a device still used for irrigation in some areas of the mideast. Propellers are direct descendants of Archimedes' water screw, invented in the second century, B.C.

The great artist, poet, and inventor Leonardo DaVinci, was the first to design a helicopter, and in the process, named it by using the Greek word "helix" (meaning spiral or twist), which was later combined with "pteron" (meaning wing) to form the name by which we know rotary wing aircraft today..."Helicopter". While Leonardo's concept was basically correct, there was no way for him to prove it without the continuous power to keep his helicopter aloft. (His machine used a wind-up clockwork mechanism.) Other wind-up toys of that age included a string-pull helicopter, no doubt inspired by the rotary-wing flight of the maple seed when it falls to the ground.

The problem of a suitable power source continued to stymie helicopter advocates for the next four centuries. Even the great Edison's attempts at perfecting a workable "helicoptal aeroplane", as he called his design efforts, failed for want of an effective power source. It was understandable that he should attempt to power his first models with electricity, which was no more practical then than it would be today (the size and weight of storage batteries would prove to be more than the lifting ability of the power generated). His next attempt at perfecting a workable power source involved the use of guncotton, which was exploded to drive a piston. Unfortunately, an accidental explosion of this volatile experimental engine badly burned one of his assistants and discouraged further experimentation. But Edison's final word on the subject was prophetic. He asserted that "When an engine could be made that would weigh only three or four pounds to the horsepower, the problems of the air would be solved."

Edison's assertion that the problems of the air would be solved by a workable engine were correct, but not necessarily so in the case of the helicopter. The Wright Brothers flight at Kitty Hawk was the breakthrough that inspired a literal explosion of practical aeronautical designs, nearly all of which were fixed-wing. Notable exceptions to this trend were the efforts of French designers Louis Breguet and Paul Cornu whose diverse designs actually managed to attain vertical flight. Neither of these designs were really airworthy though, and Cornu gave up after running out of money, while Breguet switched to airplanes.

Perhaps the most recognizable name in helicopter design is Sikorsky, and the young Russian was beginning his fabulous design career at about the same time that Breguet and Cornu were succumbing to the frustrations of helicopter design. He built his first helicopter in 1909, a design notable for it's solution of the torque problem. Sikorsky's helicopter had two contra-rotating blades. But in the end it was not any more successful than earlier efforts. And neither was his second effort. He too turned to designing and building fixed-wing aircraft, but he never gave up on the idea of building a successful helicopter. After the Russian Revolution, Sikorsky emigrated to the United States. He established the Sikorsky Aero Engineering Corporation on Long Island, and began turning out multi-engined transport aircraft. He struggled through the twenties and finally hit the jackpot with his S-38 amphibian in 1928. He moved his successful company to Stratford, Connecticut, and merged with United Aircraft and Transportation Corporation in 1929. Freed from the day-to-day running of his company, Sikorsky was able to revive his old interest in the design of a successful helicopter. Unfortunately, the Great Depression intervened, and the Sikorsky Division of United Aircraft had all it could do to survive. By 1938 it had become evident that, despite the success of his flying boats, the Sikorsky Division was just not a money maker. In the dog-eat-dog world of big business, there is very little room for sentimentality. The corporate chiefs of United Aircraft were forced to conclude that their Sikorsky Division would have to be closed down. But, though the depression economy would not support Sikorsky Aircraft, Sikorsky's design genius could not be allowed to get away from United Aircraft. It wasn't sentimentality that prompted United Aircraft to offer to fund Sikorsky's personal research. It was hard-nosed business acumen, which ultimately paid off handsomely. Sikorsky was able to retain most of his staff of design engineers, and work went forward on his helicopter, the VS-300. On May 13, 1940, the VS-300 made it's first free flight, (On previous test flights it had been tethered.) with Igor Sikorsky himself at the controls. The VS-300 was the first really successful helicopter. It was able to hover, fly to the left or right, and after some early vibration problems were ironed out, it could fly forward at 30 to 40 miles per hour.

The U.S. Army's helicopter program project officer, Captain Frank Gregory, was impressed enough with the perfomance of the VS-300 to recommend that the Army give Sikorsky a contract to develop an operational helicopter. After reviewing Gregory's report on the VS-300, a panel of defense experts agreed to fund Sikorsky's design of an experimental helicopter for the Army Air Corps. Sikorsky had $50,000 to design and build a prototype of the XR-4 (the XR-1 was being build by Platt-LePage Aircraft company, while XR-2 and 3 had been experimental autogiros built by the Kellett Autogiro Corporation). Sikorsky continued to experiment with the VS-300 while the XR-4 was being designed. He eventually arrived at the configuration used on the XR-4 (and the Huey, as well as a host of other helicopters). The XR-4 had a single main rotor, and one vertical tail rotor to control torque. The main rotor was fully articulated and controlled the direction of flight through use of a cyclic stick. The XR-4 made it's first flight on January 14, 1942. It was a resounding success, and eventually over 400 Sikorsky helicopters were produced before the end of the war.

Though there was now an operational helicopter (the R-4) and many more would follow it, vertical flight was still light years behind the rest of aviation. Fixed wing development had proceeded by leaps and bounds throughout the war years, while vertical flight remained in the experimental stages. Helicopters were delicate machines, and it was not at all certain that they could withstand the rigors of a combat situation. If *necessity* is the mother of invention, then the Korean War has to be the *midwife* of the combat helicopter. The Air Force used H-5s and H-19s to evacuate wounded and rescue downed pilots, the Marine Corps used their H-19s to resupply isolated outposts, and took the first steps in developing what they called "Vertical Envelopment" tactics. The Bell H-47 made a name for itself as an airborne ambulance, rushing the most seriously wounded to M.A.S.H. units behind the front. Korea demonstrated that the helicopter was not only up to the rigors of war, but also that it would become one of the most important players in the war over the horizon...the war that became known as "'The Helicopter War" ... Vietnam.

**The third of three Bell XH-40 prototypes shown during flight testing. (Bell)**

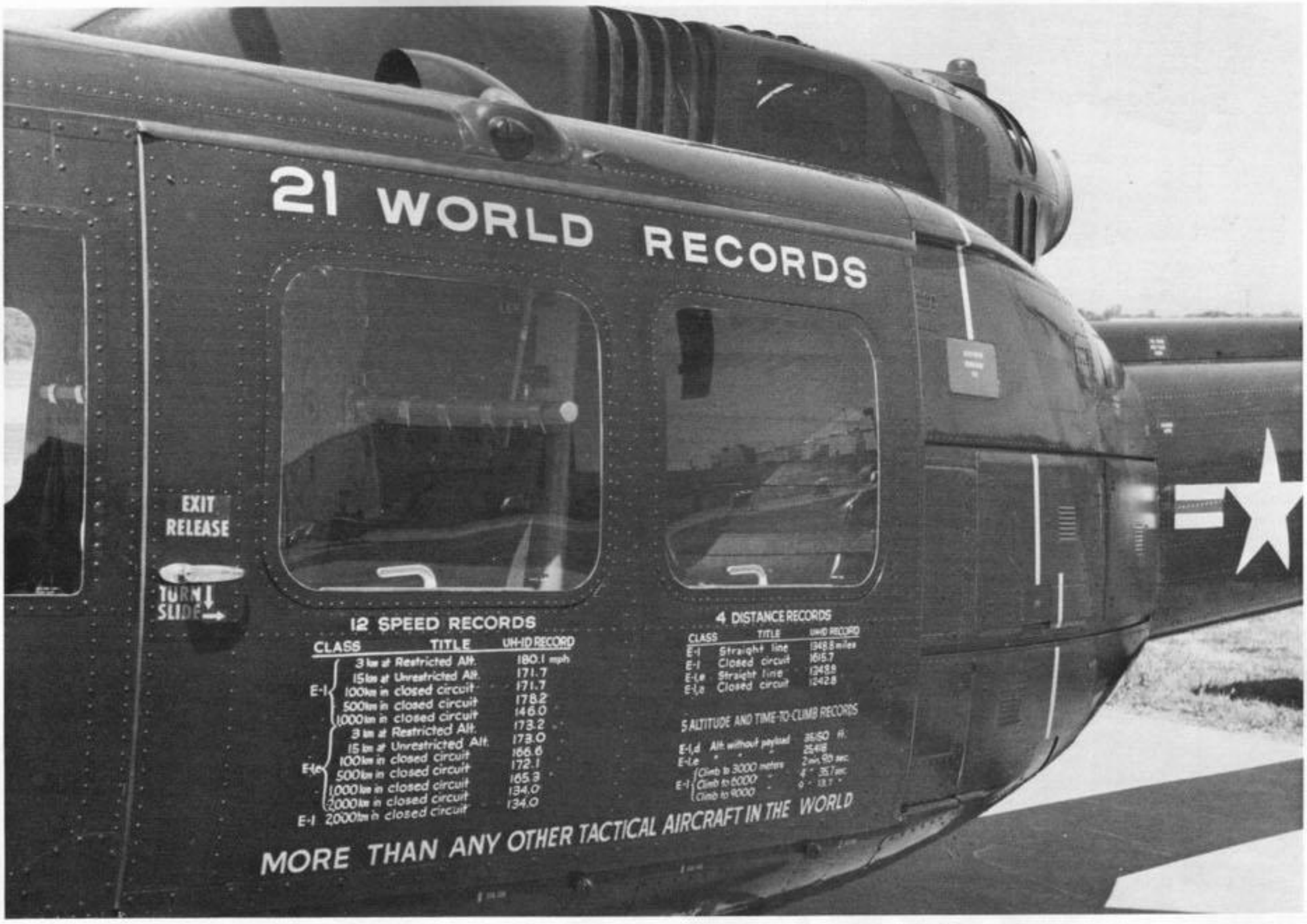

One of six service test YH-40s during flight tests. The differences between these aircraft and the first production examples of the Huey are minimal. (Bell)

The first production Huey, the HU-1A, seen during an early deployment, Operation Willow Freeze, after landing on Tolsana Lake in Alaska, 10 February, 1961. (U.S. Army)


One of several high speed configurations applied to the Bell 533, which began life as one of the six YH-40s. It was retained by Bell, and under U.S Army sponsorship, was fitted with an additional pair of jet engines and a four bladed rotor. In this configuration the 533 reached a top speed of 316 mph on April 15, 1969. (Bell)

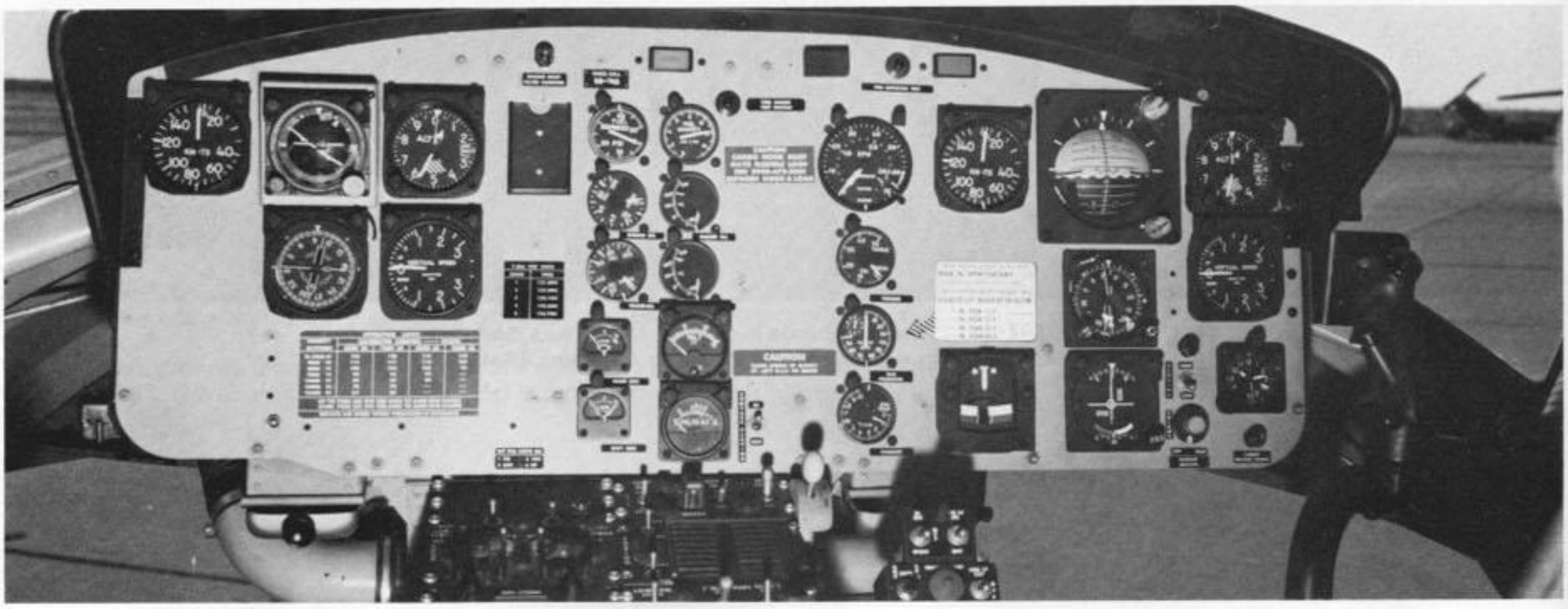
The M-5 40MM grenade launcher was tested on the HU-1A at Springfield Armory in October, 1962. The short mast of the A model is most evident in this photo. (U.S. Army)


The first twin-turbine helicopter developed by Bell was the Model 208, a UH-1D modified with a pair of Continental free turbine engines. It was flown as a proof-of-concept aircraft, making its first flight on April 27, 1965. The XT67-T-1 power plant was capable of developing up to 1,540 SHP for short periods. (Bell)




**The UH-1D that set 21 world records in class E-1, as it was marked for its post-record setting appearance at the Paris Air Show. (Bell)**

Layout of the instrument panel makes it evident that the aircraft commander sits on the right in the Huey. Note XM-60 reflex sight (right) and M-6 armament sub-system controls in stowed position at top of windscreens. Both panels are UH-1B/C/M gunship versions of the Huey. (Bell)



Interior of the UH-1B/C/M. Armored seats were added during the Vietnam War. (Bell)


**Factory fresh UH-1C on its acceptance flight showing the larger vertical tail surfaces that mark the major difference between the B & C models. (Bell)**

# HUEY HISTORY

The genesis of Huey can be traced to 1941, when pioneer helicopter designer Arthur Young persuaded Larry Bell to sponsor him in the development of a commercial helicopter design. The project was carried on in Gardenville, New York, and the first flight of this first Bell Helicopter took place in July, 1943. Experimentation and refinement of the design went on throughout the war years, and on 8 March 1946 the Bell Model 47B was granted the world's first commercial helicopter license. The Model 47 became the design which would become synonymous with "helicopter" in the minds of millions of people, worldwide, as it enjoyed a 27 year continuous production run. The 47 was the helicopter MASH doctors became so familiar with in Korea, just as the Huey would become *the* helicopter of the Vietnam War.

In 1951 Bell moved its operations to Texas as a result of winning a Navy competition to develop an anti-submarine warfare helicopter. The HSL was the largest helicopter produced up to that time, with a gross weight of up to 26,500 pounds. Fifty were ultimately produced, though they proved ineffective in the ASW role because of the high noise levels, which made use of Sonar equipment impossible. While development of the HSL went forward, the first Army order for H-13s was received in 1953. (The H-13 was the military designation for the model 47.) In 1954 the first production HSL was delivered to the Navy, but a much more important event was the flight of the experimental XH-13F, which was fitted with a Continental XT 15-T-3 turbine engine. It was the first flight of a turbine-powered helicopter, and contributed to Bell's winning the industry-wide competition for the Army's first turbine-powered utility helicopter. The announcement that Bell's design had been chosen from the 20 entries came on 23 February 1955. The Army's design specification called for the ability to carry an 800 pound payload with a 100 nautical mile mission radius. The mission included transport of troops, equipment, and supplies, as well as evacuation of wounded. The new design had to be transportable in a cargo aircraft, and easily maintainable in the field.

In June of 1955, Bell was awarded a contract for construction and testing of three XH-40 prototypes. The first flight of the XH-40 was made on 22 October 1956. The exhiliaration felt by the design team was tempered with sadness at the passing of the company's founder. Lawrence Bell had died on 20 October. This first flight was followed by a successful test program, which resulted in an order for six YH-40s for service tests, and was followed by a further order for nine pre-production aircraft. The XH-40 was re-designated HU-1 (number one in a new series of Helicopter Utility aircraft). Production aircraft would be HU-1As. Bell's designation for its new helicopter was the model 204.

The original "HU" designator is what led to it's unofficial, but universally popular, nickname, "Huey". In fact, popular useage has rendered "Huey" immortality, while "Iroquois" remains the name of an indian tribe. Rather than bucking this popular trend, the manufacturer has sanctioned it by stamping "BELL" on the left directional control pedal and "HUEY" on the right directional control pedal of all UH-1s. There have been other popular names applied to various versions of the Huey, such as "Slick" for the troop carrying version, so named because of it's lack of encumbering exterior armament. Or "Hog" for the gunship version, probably as a result of the performance degradation suffered as a result of the added weight of the armament. The basic type though, remains "Huey".

## UH-1A

The first UH-1A (it was still designated HU-1A at the time) went into service in June of 1959. It was equipped with an 860 Shaft Horse Power (SHP) T53-L-1A turboshaft engine, derated to 770 SHP. It had a 44 foot diameter rotor, with 15 inch chord blades. It carried seven, including pilot, co-pilot, crew chief, and four passengers. Empty weight was 3930 lbs, and gross weight was 7200 lbs. Maximum cruise speed fully loaded at sea level was 62 knots (at 6,000 lbs this went up to 105 knots). It's 138 gallon fuel load gave it a max range at sea level of 163 nautical miles. 173 HU-1As were produced. They are readily identifiable by their shorter main rotor mast, with the main rotor counter weights extending downward from the blade retention bolts. The first overseas deployment of the Huey was with A models to Panama, Korea, and Europe in 1960. The first experiments with armed Hueys were conducted with the UH-1A in 1960. The Huey received its baptism of fire with the Utility Tactical Transport Helicopter Company (UTT), which had arrived in Vietnam in 1962 with 20 of the A models. Some of these were equipped with field-fabricated machine gun and rocket mounts. They carried a pair of Browning 30 caliber machine guns and up to 16 2.75 inch rockets. Even with this limited armament, the armed Huey proved to be a more effective escort for troop carrying helicopters than the B-26s and T-28s that had previously been used for prepping the LZ and escorting the helicopters. As soon as the armed Hueys took over these duties, the number of lift helicopters hit by groundfire diminished dramatically. Unfortunately, the gunships were so slow in their heavily laden configuration, that if they engaged the enemy along the ingress route, they were unable to catch up to the lift elements for LZ prep. They did illustrate the need for more powerful versions of the Huey.

## UH-1B

The need for a more powerful version of the basic design came as no surprise to the Army, which had contracted for the B model during the same month that the first A model was delivered. Four prototype YUH-1Bs had been ordered in June, 1959, and in April of the following year, the first of these made its maiden flight. Coincidentally, the first foreign order for the Huey was received in that month, when the Royal Australian Air Force ordered eight UH-1Bs. The B model was equipped with the Lycoming T53-L-5, of 960 SHP initially. Later versions were upgraded with L-9 and L-11 engines, which were rated at 1100 SHP. It was equipped with a 44 foot main rotor, with a 21 inch chord. Empty weight was 4,513 lbs, and a maximum gross take off weight was 8,500 lbs. Maximum speed at sea level at gross weight was 95 knots (which goes up to 120 knots at a gross weight of less than 6,600 lbs). It carried nine, including passengers and crew, and its 165 gallons of fuel gave it a range of 225 nautical miles. A total of 1,010 B models were produced. It is differentiated from the A model by its 13 inch taller main rotor mast, with the counterweights extending upward. It was the first model in widespread use as a gunship, and carried a wide variety of armaments. The YUH-1B set an unofficial world's speed record for helicopters in May of 1964, when it flew 222 MPH. The commercial version of the B model was the model 204B, which differed from the military model in having 10 seats, a 48 foot main rotor, and a 2 foot longer tail boom to accomodate a baggage compartment. It received FAA certification on 4 April 1963, and was the first version to be produced under license, by Augusta-Bell in Italy and by Fuji Heavy Industries in Japan. The AB-204B uses the Bristol Siddely Gnome turboshaft engine. The Model 204B-2 is a Fuji-built B model equipped with the 1,400 SHP Lycoming T53-L-13B turboshaft engine. It is recognizable by the tail rotor, which is mounted on the right side of the tail boom.

The first operational chin turret for Hueys was the TAT-101, mounting a pair of M-60 machine guns. It was developed for the Marines UH-1E. (U.S. Navy)

# UH-1C

The UH-1C was manufactured specifically to fill the interim gunship role during development of the AH-1 Cobra. It was basically the same as the B model, except for the rotor system, which incorporated the Bell 540 "door hinge" and increased the chord of the blades to 27 inches. Gross weight was upped to 9500 lbs, which gave the C a useful load of 4673 lbs. The primary external recognition feature of the C model is the vertical fin, which was increased in chord, and given an anti-torque camber. The C also featured a dual hydraulic system, included as combat insurance. 749 were manufactured, beginning in June of 1965. When upgraded to the T53-L-13 engine, with 1,400 SHP, the C is redesignated UH-1M.

# UH-1D

A contract for seven YUH-1Ds was announced in July of 1960. The first flight took place in August of 1961, with the test program commencing at Edwards AFB the following March. The first delivery of the D model to a regular Army unit took place on 9 August 1963, when the second and third production aircraft were turned over to the 11th Air Assault Division at Fort Benning, Georgia. The D was also equipped with the L-11 engine, but had a 48 foot main rotor, with 21 inch chord. Its larger cabin (achieved through relocation of fuel cells) accomodated thirteen, including pilot, co-pilot, crew chief, and 10 passengers. Its 220 gallons of fuel gave it a range of 293 nautical miles at a gross weight of 9,500 lbs. The D model set several world helicopter records during 1962, including:

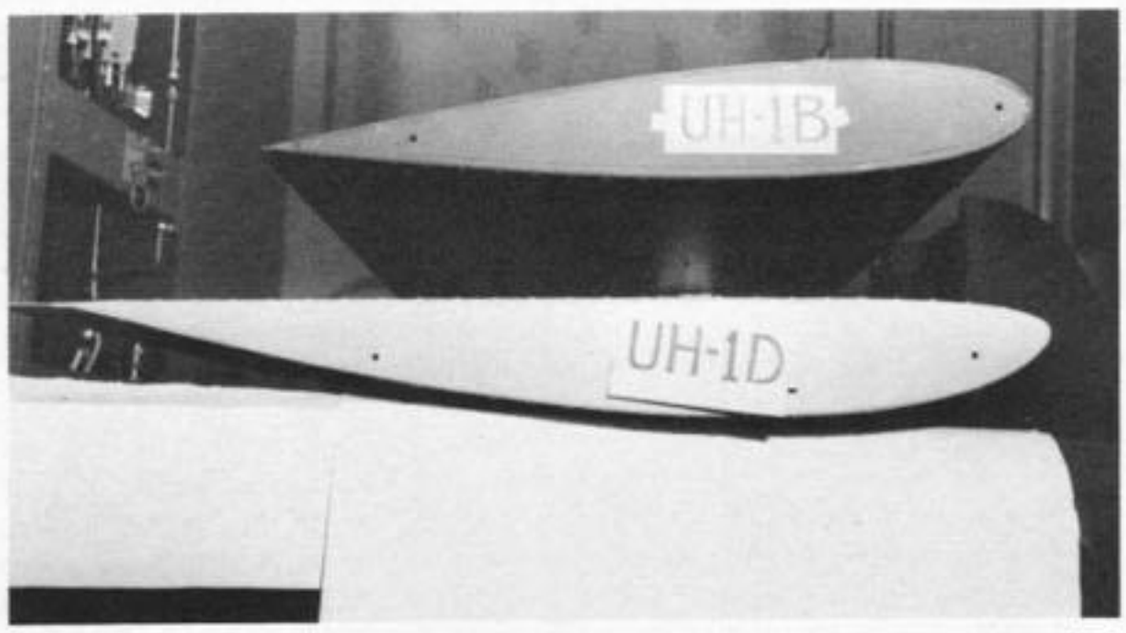
Time to climb: Capt Boyce B. Buckner - 6,000 meters in 5 minutes 51 seconds.
Lt. Col. Leland Wilhelm - 3,000 meters in 2 minutes 17 seconds.
Speed: Capt. W. F. Gurley - 1,000 meter closed course in 134.9 MPH.

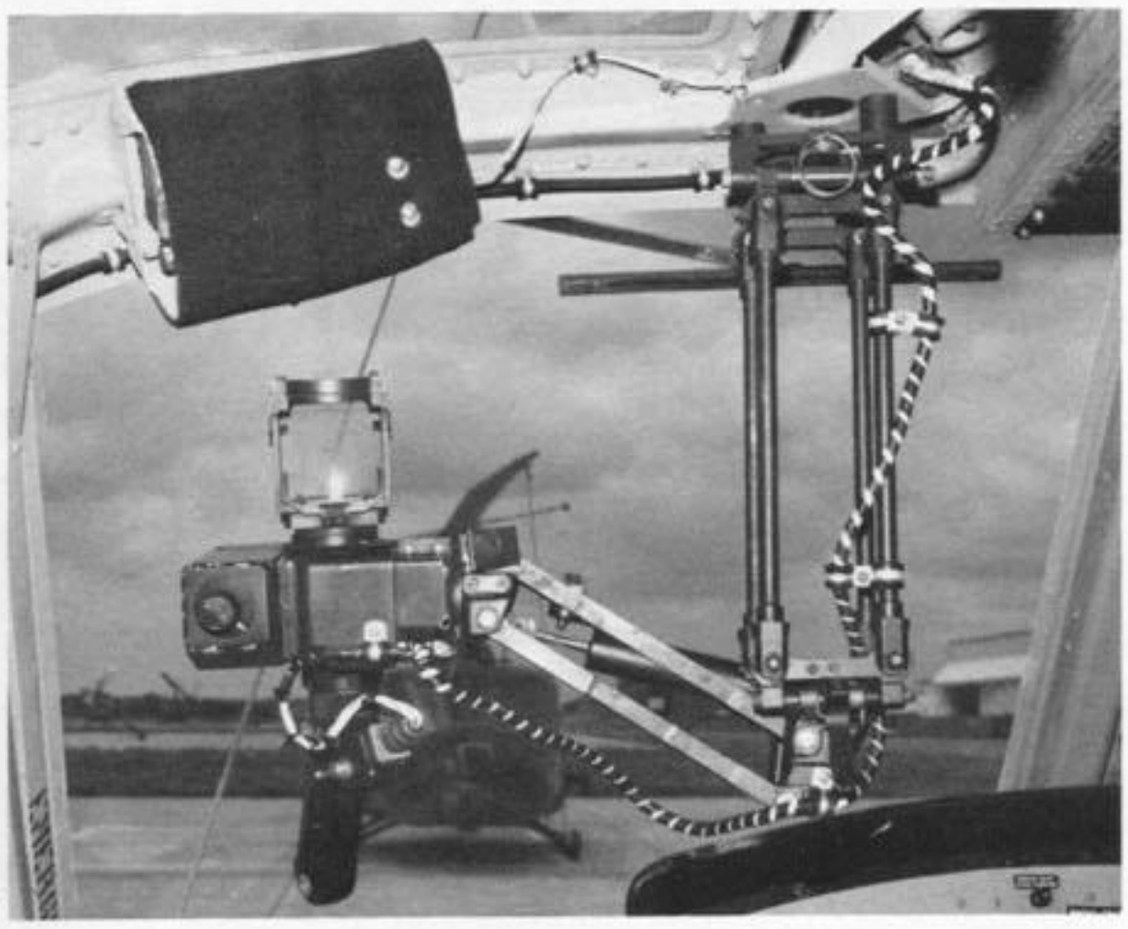
The D Model became the major troop carrying version with 2,561 being produced before it was succeeded on the production line by the even more prolific H model. The commercial version of the D is the Bell Model 205. Over 400 of the D models were license built in Germany by Dornier for the West German armed forces.

# UH-1E

In 1962 the Model 204B won the Marine Corps competition for a new Assault Support Helicopter (ASH) to replace the Marine's fixed wing O-1B and C airplanes and Kaman OH-43D helicoptors. The new version of the Huey was designated UH-1E, and differed from the B model in having Corps specified special equipment, which included a personnel hoist, rotor brake, and special avionics. The first flight of the initial E model was made in February, 1963, and the first production model to equip a regular squadron went to Marine Air Group 26 at New River, North Carolina in February, 1964. The Marines initially used a 44-foot main rotor with a 21 inch chord, but later went to the 54C rotor with a 27-inch chord, which gave increased load-carrying capability. The UH-1E is most easily recognized by the hoist housing on top of the main cabin. A more important, but virtually invisible difference between the E model and other Hueys is its basic structure. The Marines, anticipating heavy shipboard use and the consequent rigors of exposure to salt air, specified that their Hueys be frabicated from aluminum. Other Hueys are, for the most part, magnesium, which is highly susceptible to corrosion. A total of 209 Es were produced.

**One of the major differences between the B & D models was the horizontal tail surfaces airfoil and area. (Bell)**



**Sighting station and trigger assembly for the M-21 armament system on the UH-1B/C/M gunships in the deployed position. (Bell)**

**In April, 1971 Bell modified a UH-1C and M with Helms Radar. They were designated UH-1 Helicopter Integrated Multifunction System (HIMS), and utilized the main rotor blade to mount a large scanning radar antenna. The large horizontal antenna provided a narrow azimuth beam with high resolution. Also included was a nose-mounted elevation antenna/receiver, Honeywell AN-APN/171-V radar altimeter, and the M-21 armament system with a radar interface. The radar screen and controls were mounted in the co-pilot position. The radar system provided fire-control, terrain avoidance, and weather detection capability. (Bell)**

# UH-1F

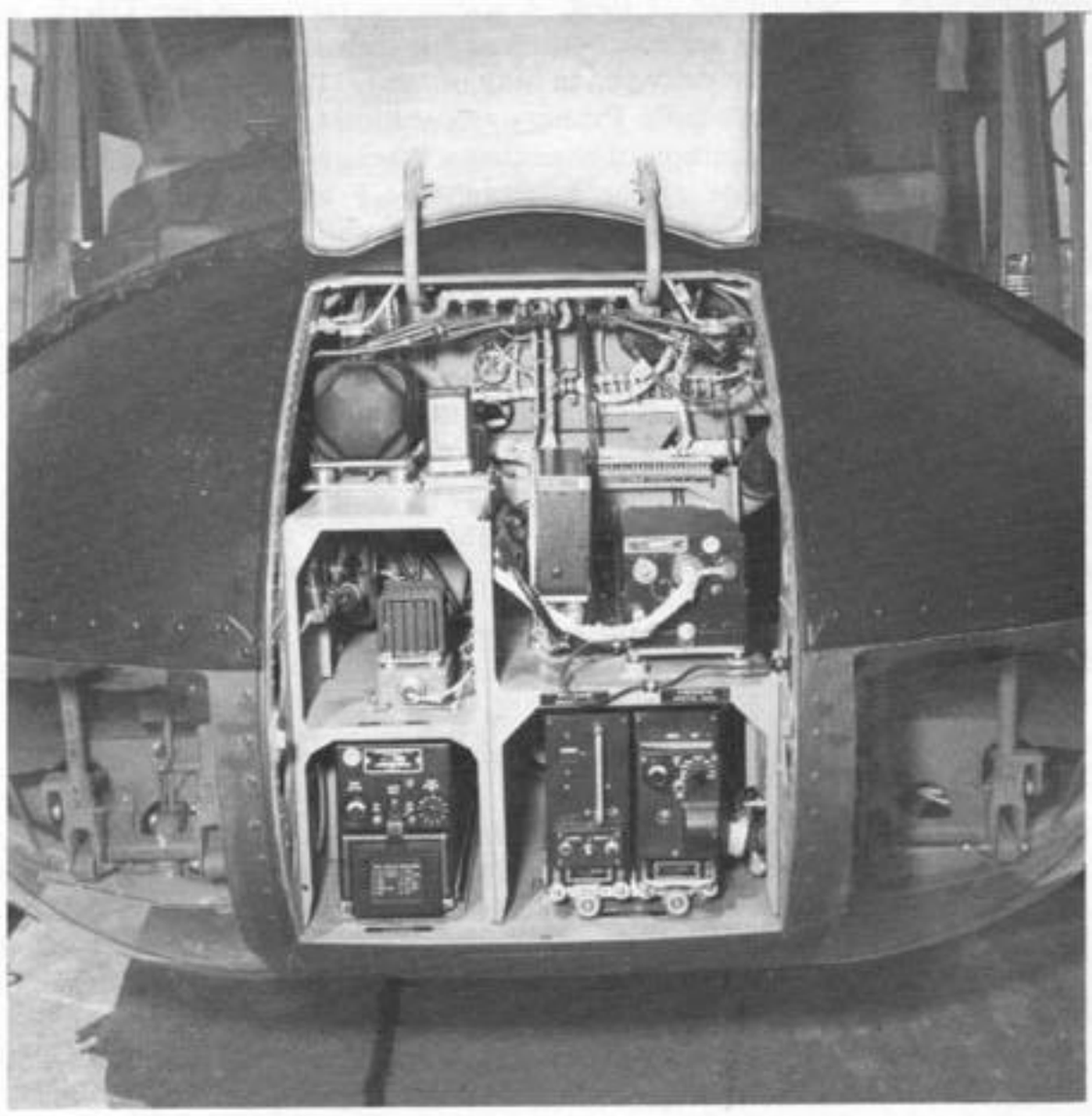
As the result of a USAF design competion, it was announced in June, 1963 that the Huey had been selected by the Air Force to fulfill its missile site support mission. The Air Force version was designated UH-1F and, though based on the Model 204, the Air Force specified use of the General Electric T58-GE-3 turboshaft engine which necessitated several modifications to the basic design (the Air Force goal was use of a common engine for two of it's first-line helicopters, the HH-3 and UH-1). The F has a 48 foot main rotor with a 21 inch chord, and the 1,272 SHP engine gives it a gross weight of 9,000 lbs. First flight was on 20 February 1964, with the first operational aircraft being delivered to the 4486th Test Squadron at Eglin AFB, Florida in September of 1964. A follow-on version is the TH-1F, a training version optimized for instrument and hoist training, first delivered in May of 1967. 119 UH-1Fs and 27 TH-1Fs were built. Primary recognition feature of the F model is the position of the exhaust stack, which is routed out the right side of the fuselage. The F also shares the longer fuselage of the commercial 204B, with its baggage compartment located on the right side of the tail boom. Some Fs were modified for use as USAF gunships and redesignated UH-1P. These were only used in Vietnam, and though several sources state that the 20th SOS used armed UH-1Fs, these were in fact UH-1Ps. They were armed with the pintle-mounted 7.62MM mini-guns and seven shot rocket pods.

# UH-1H

The most widely produced version of the Huey is the H model which is realy a D model powered by the uprated T53-L-13 engine of 1,400 SHP. The first of 4,850 (production ran through July of 1982) was delivered to the U.S. Army in September of 1967. It was license produced by the Republic of China for the Nationalist Chinese Army. Most D models have been upgraded to H models with the more powerful engine being retrofitted. The commercial version of the H model is the Model 205A-1. At the time of it's introduction, in 1968, it was the largest commercial helicopter produced by Bell. It was license produced by Augusta-Bell in Italy. Versions of the H built for Canada are designated CH-118.

The prototype YUH-1D was fitted with the M-6 armament sub-system on an experimental basis. (Bell)

Mount for the FM Radio Set Antenna on the tail of the UH-1D. (Bell)

Avionics compartment for the Huey is in the nose. (Bell)


The UH-1F was developed for USAF, using the General Electric T-58 engine, which required a revised exhaust position. The Fs tail boom is also two feet longer than other Hueys as a result of inclusion of a baggage compartment. (Bell)

Seating arrangement in the UH-1Fs cargo compartment. (Bell)


The United Nations operated the UH-1H in its peacekeeping mission in the Mid-East. The dangers inherent in that mission are indicated by the installation of the exhaust shield kit fitted to guard against heat-seeking missiles. (Bell)


The F model has been used in a variety of roles, including recovery of target drones, in this case a BQM-34A Firebee which had been launched from the Air Defense Weapons Center at Tyndall AFB, Florida in November, 1969. (USAF)

UH-1D tied down at Ellsworth Land Camp, Antarctic during a November, 1968 storm. (U.S. Navy)

UH-1H loading the Army Parachute Team for an airshow appearance. (Michel C. Klaver)


## HH-1H

A contract for the HH-1H was announced in November of 1970, and delivery of the 30 HH-1Hs was completed in 1973. It was the basic UH-1H modified for local air base rescue duties for the USAF.

## EH-1H

Under "Project Quick Fix" the Army Security Agency modified the UH-1H with electronic warfare equipment to locate and jam enemy communications.

## SOTAS

In addition to the "Quick Fix" project, the Army also modified the Huey with Standoff Target Acquisition System (SOTAS). It was the only other OPERATIONAL airborne radar intelligence gathering version of the Huey. After testing, the first SOTAS was funded in 1975, utilizing the JUH-1 configuration, which consisted of retractable skids, necessary to facilitate use of a large rotating radar antenna on the belly of the aircraft. The antenna resembled the SLAR boom carried by OV-1 Mohawks. Other modifications included a new autopilot, new navigation system, heated windshield, and a new antenna drive system for the large antenna. The complete SOTAS system consisted of the airborne platform with MTI Radar, a small DME /localizer that is used to determine helicopter position, and a data link and ground station equipped with interactive CRT displays. Two of these aircraft were deployed to Germany in 1975 for DTI tests. By 1979, two units of two aircraft each were permanently assigned to Germany.

## HH-1K

First delivered in May, 1970, the HH-1K was built for the U.S. Navy as a search and rescue (SAR) aircraft. It is basically the same as the UH-1E, but equipped with the 1,400 SHP T53-L-13 Turboshaft engine. Twenty-seven were built.

## UH-1L

The UH-1E was modified for the Navy as a general utility helicopter by the deletion of armor and armament. Equipped with the -13 engine, and first delivered in November of 1969. Eight were built.


**The Navy uses the TH-1L for basic helicopter training. This Huey is demonstrating use of the sling hoist at Ellyson Field, Pensacola, Florida, August, 1970. (U.S. Navy)**

**Helicopter pilots have to be carrier qualified too. These TH-1Ls of Helicopter Training Squadron 8 are in the landing pattern for USS Lexington (CV-16). (Bell)**

# TH-1L

Basically the same aircraft as the UH-1L, but equipped and used exclusively as a trainer. Forty-five were built, with first delivery in November, 1969.

All of the foregoing share the basic Huey design, and though each is a separate type, optimised for a specific mission, most are recognizable as Hueys. Where there are specific and reliable recognition features, I have enumerated them. A feature which may change from model to model, or from aircraft to aircraft with the SAME model designation is the location of the refuelling point on the B model was changed from right to left side when a larger oil reservoir necessitated use of that space. The pitot tube was usually moved from the nose to the cabin roof on the D model when the D was upgraded to H standards. Early models had airfoil shaped horizontal tail surfaces, top and bottom. Later models (and some upgraded early models) have a larger chord horizontal tail, with flat upper surface. The air intake of most later models incorporated air filters, though many were retrofitted to earlier models. The various antenna types and locations have changed as the various services have upgraded avionics which did not necessarily indicate a change in aircraft model designation. On most military aircraft, when minor changes are made on the production line, a block number change is made within the basic aircraft model number. According to the Bell Helicopter Textron spokesmen, this was not the case in the production of the Huey. And since many (but not necessarily all) improvements were retrofitted to earlier


**The HH-1K, built for SAR operations, is also used in the light attack role. (Michel C. Klaver)**

**The CH-118, a built-for-Canada version of the UH-1H. (Bell)**


models, it is not always possible to identify an aircraft by model number without actually reading the stencilled model number and serial number on the aircraft.

These versions of the Huey were/are operated by the following countries; Argentina, Australia, Austria, Bolivia, Brazil, Brunei, Burma, Canada, Chile, Columbia, Dominican Republic, El Salvador, Ethiopia, West Germany, Greece, Guatemala, Indonesia, Iran, Israel, Italy, Japan, Kampuchea, South Korea, Kuwait, Mexico, Netherlands, New Zealand, Norway, Oman, Panama, Peru, Philippines, Saudi Arabia, Singapore, Somalia, Spain, Sweden, Taiwan, Thailand, Turkey, Uganda, United Arab Emirates, United States, Uruguay, Venezuela, North Yemen, Yugoslavia, Zambia, and Zimbabwe.

# UH-1N

Bell had investigated the possibility of producing a twin engine version of the Huey in 1965, flying a twin Continental engined version in April of that year, but it remained to the Canadian Government to provide the commercial incentive to develop an operational twin Huey. The Canadian contract was announced on May 1, 1968. The Model 212, as Bell designated it, would be powered by a Pratt & Whitney of Canada PT-6T3 Turbo Twin Pac, which coupled a pair of the engines, rated at 1,800 SHP, derated to 1,290 SHP for takeoff, and 1,130 SHP for continuous operation. The Canadian aircraft were originally designated CUH-1N (later changed to CH-135). At the same time, the United States Government ordered the new Huey, which it designated UH-1N, for the USAF, Navy, and Marine Corps. Deliveries to USAF began in 1970, and the Canadians took possession of their first 212s in May of 1971. The twin engines drive a single 48 foot rotor with a 23 inch chord through a combining gearbox. In case of failure of one engine, the remaining engine is capable of operating at 800 SHP continuously. The 212 will carry a pilot and 14 passengers. Its empty weight is 6,070 lbs. and gross weight is 11,200 lbs. Its 215 gallon standard fuel load (auxiliary fuel tanks can boost fuel capacity to 395 gallons) gives it a range of 261 nautical miles at max gross weight. The commercial version of the 212 gained FAA certification in October, 1970. An important milestone for commercial success was achieved with full IFR certification in January of 1973. This required a new avionics package, with aircraft stabilization controls and a new instrument panel. A total of 294 UH-1Ns were produced for U.S. armed forces. The 212 is license produced by Augusta in Italy as the AB 212 and AB212ASW, and in the People's Republic of China. Another version is the Model 412, which has a four bladed rotor. The twin engine model 212 is operated by the following countries: Argentina, Austria, Bangladesh, Brunei, Canada, China, Columbia, Ecuador, West Germany, Ghana, Greece, Guyana, Iran, Israel, Italy, Jamaica, South Korea, Lebanon, Libya, Malaysia, Mexico, Oman, Panama, Peru, Philippines, Saudi Arabia, Singapore, Spain, Syria, Turkey, United Arab Emirates, and the United States.

# Model 214

The Model 214A was developed for the Imperial Iranian Army. The first order was received in December of 1972, for 287 aircraft, to be delivered through the U.S. Army. The Model 214A was developed from the Model 214 Huey Plus, an experimental model with a single 1,900 SHP Lycoming T53-L-702 turboshaft engine. The pre-production 214A was powered by a 2,050 SHP T55-L-7C. The production 214A is powered by 2,185 SHP Lycoming LTC4B-8D turboshaft, turning a 50 foot main rotor with a 33 inch chord. At its maximum gross takeoff weight of 13,800 lbs. it can cruise at 140 knots, with a range of 246 nautical miles. It was to have been produced by Iranian Helicopter Industry, but the fall of the Shah of Iran in 1979 put an end to any co-production plans for the 214A or C, which had been specified for SAR missions. The 214 model has been commercially developed by Bell as the 214B Biglifter, receiving an FAA certificate in January of 1976. It is powered by a Lycoming T5508D turboshaft engine of 2,185 SHP. 296 214As and 39 214Cs were produced for Iran before business with that country ceased.

**The Austrians have equipped some of their AB-204s with skis. The Augusta built versions of the UH-1B used the standard Lycoming T-53 engine, the General Electric T-58 engine, or the Rolls Royce Bristol Gnome. (Michel C. Klaver)**

**The Augusta Bell 205 is the Italian built version of the UH-1H, seen here in Italian Air Force service. (Michel C. Klaver)**


**A Norwegian AB-204 during a helicopter performance competition. (Michel C. Klaver)**

**An AB-204 in Italian service as a SAR aircraft. (Michel C. Klaver)**

**West Germany was one of the first foreign customers for the Huey, license-building 352 UH-1Ds for the Luftwaffe and German Army. (Michel C. Klaver)**


**One of the West German UH-1Ds was tested with floats near Kiel in November, 1964. (Bell)**


As a result of a 1969 agreement, the Aero Industry Development Center of the Chinese Air Force (Taiwan) produced the UH-1H at Taichung. (Bell)


UH-1H of the Brazilian Air Force search and rescue forces. (Bell)

USAF UH-1N of the Vandenberg AFB search and rescue detachment, April of 1979. (Capt. Wallace T. Van Winkle)

The UH-1N has a maximum level speed of 109 knots at sea level, with an initial rate of climb of 1,745 feet per minute, and a service ceiling of 17,400 feet. (Bell)


The Marines almost did not get the UH-1N. Their acquisition was opposed by the Chairman of the House Armed Services Committee, L. Mendel Rivers. His opposition was based on the fact that the twin engines were made in Canada, which had been outspoken in its opposition to U.S. Vietnam policies, and whose winning of the contract would result in a negative flow in the balance of payments. After being assured that a U.S. source for the engines would be sought, the Congress agreed to the initial purchase of the UH-1N for the Navy and Marines. (Bell)

UH-1N of the Argentinian Air Force. (Bell)


UH-1N aboard LPH-7. (Michel C. Klaver)


UH-1N of NAS Lemoore. (Michel C. Klaver)

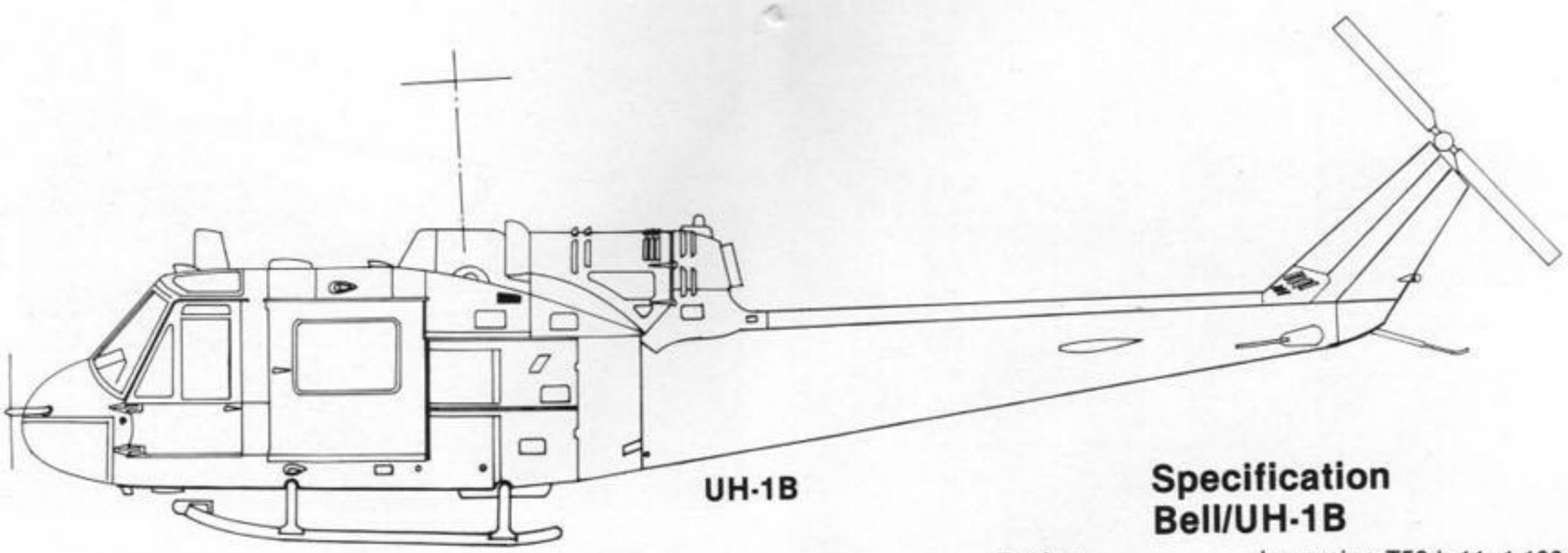
UH-1N of Antarctic Development Squadron six (VXE-6) at NAS North Island. A UH-1N of VXE-6 carried parachute rigger Hendrick V. Gorick to an altitude of 20,500 feet over McMurdo for the jump that set the record for the Antarctic continent, on March 6, 1972. (U.S. Navy)


Navy UH-1N carried one of the more colorful schemes developed for the 1976 Bicentennial celebration. (Bell)

Augusta Bell AB-212 of the Austrian Air Force over the Alps. (Michel C. Klaver)

(Below) One of the rarest of Hueys, the JUH-1 SOTAS, only four of which are known to exist, all based in West Germany. (Bell)

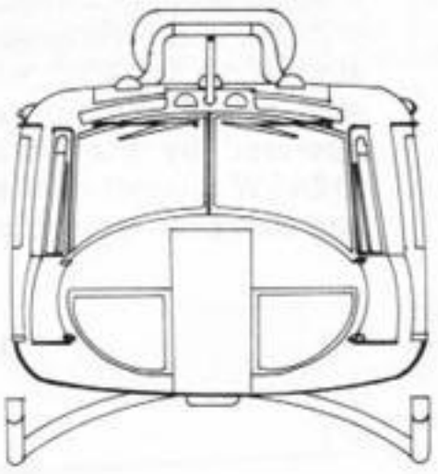

(Above, Below Left and Below) The AB-212ASW first entered service in 1976, with 5 Gruppo Elicotteri, based at Luni. It is the same basic aircraft as the 212, with modifications made for the ASW role, including all-weather capability in the anti-submarine role. It is operated by the navies of several countries. Illustrated are AB-212ASW aircraft of the Italian and Spanish navies. (Michel C. Klaver and Salvador Mafe Huertas.)

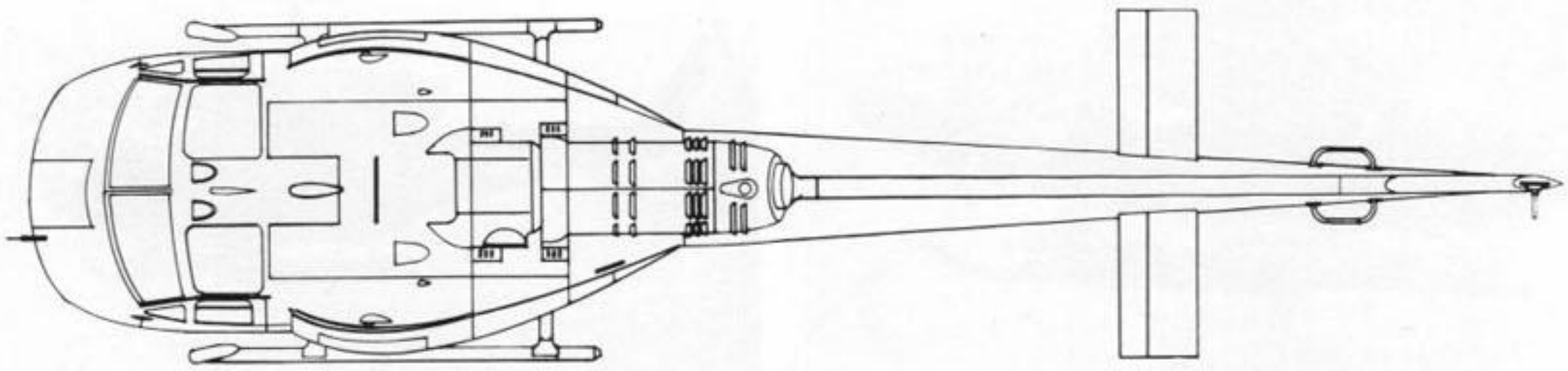



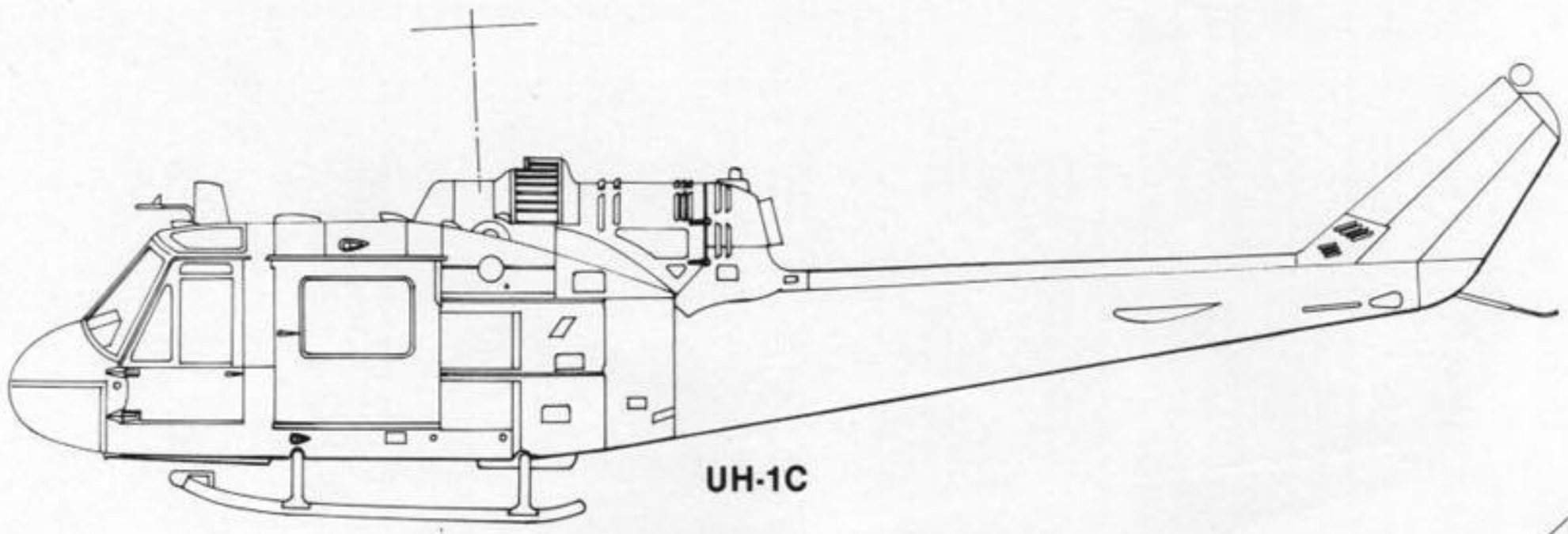
UH-1B

## Specification
## Bell/UH-1B

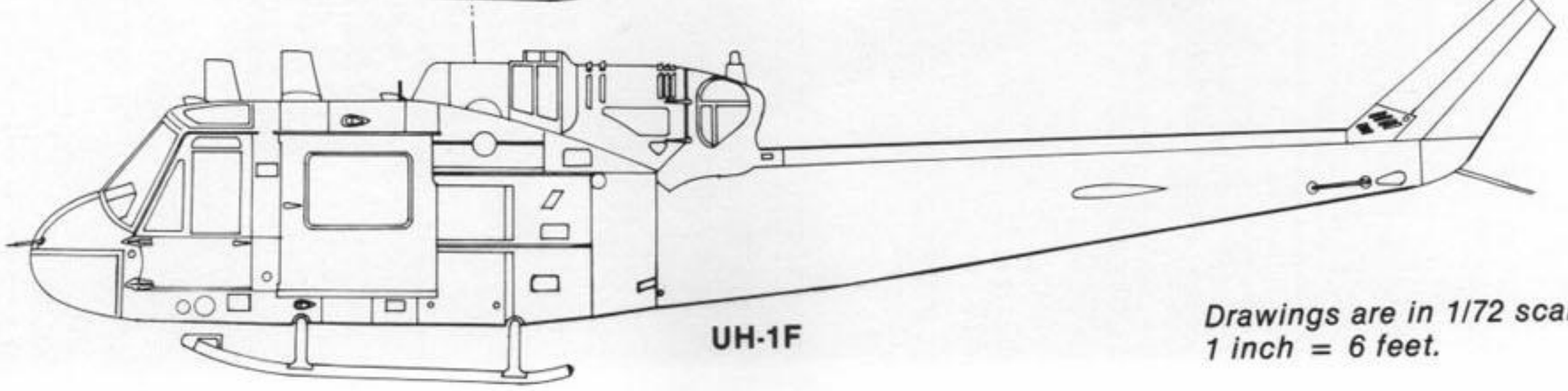
| | |
|---|---|
| **Engine:** | Lycoming T53-L-11; 1,100shp |
| **Rotor diameter:** | 44 ft. 0 in. (13.41m) |
| **Length overall:** | 53 ft. 0 in. (6.15m) |
| **Length of fuselage:** | 38 ft. 5 in. (11.70m) |
| **Weight empty:** | 5,055 lb (2,293kg) |
| **Weight loaded:** | 9,500 lb (4,309kg) |
| **Cruising speed:** | 138mph (222km/h) |
| **Rate of climb:** | 1,849 ft./m (563m) |
| **Service ceiling:** | 21,000 ft. (6,400m) |
| **Hover ceiling IGE:** | 15,800 ft. (4.815m) |
| **Hover ceiling OGE:** | 11,800 ft. (3,595m) |
| **Range:** | 286 miles (460km) |





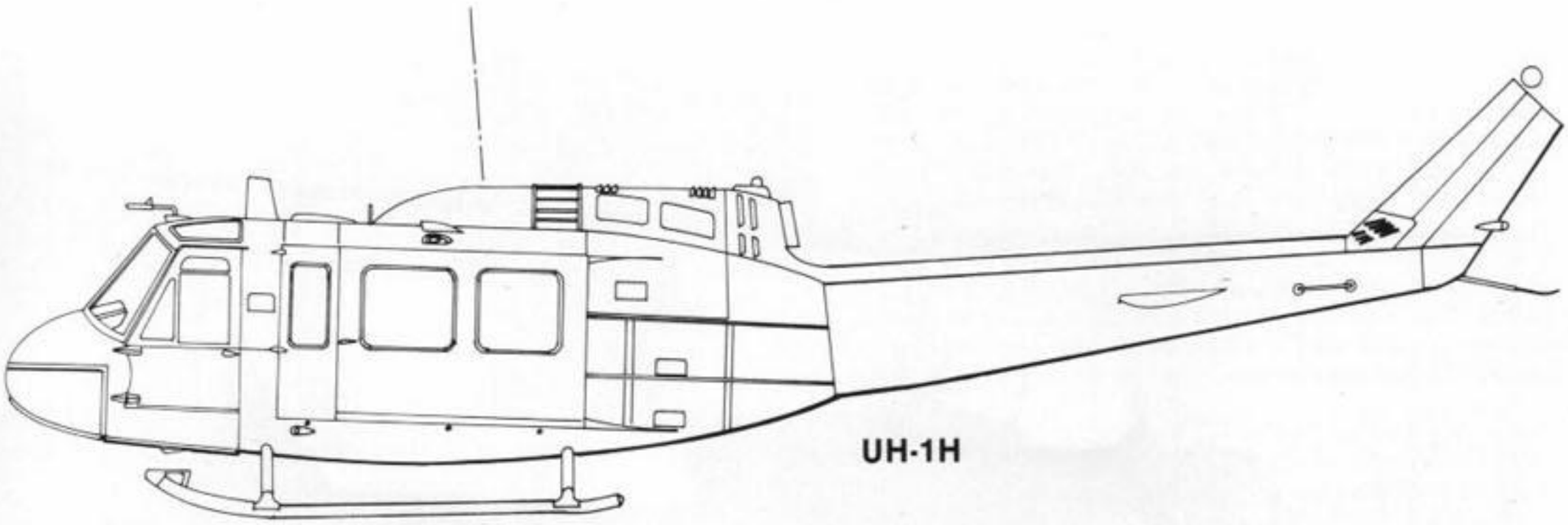


UH-1C

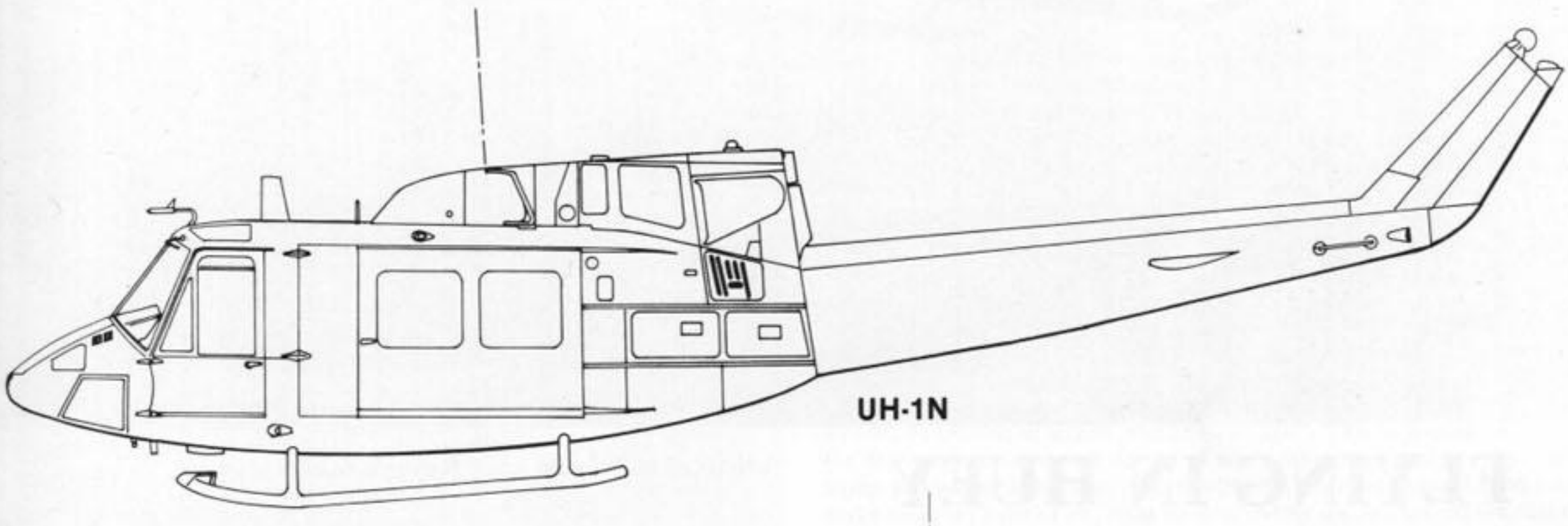


UH-1F

*Drawings are in 1/72 scale.*
*1 inch = 6 feet.*



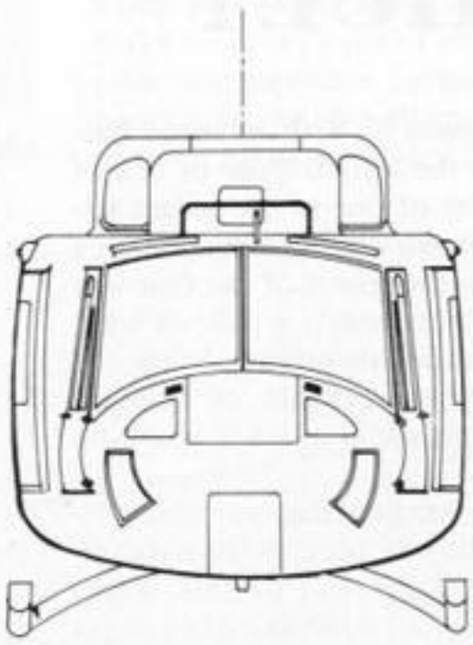
UH-1H



UH-1N

## Specification
## Bell/UH-1N

| | |
|---|---|
| **Engine:** | Pratt & Whitney PTCT-3 Turbo-Twin Pac; 1,100shp |
| **Rotor Diameter:** | 48 ft. 2¼ in. (14.69m) |
| **Length overall:** | 57 ft. 3¼ in. (17.46m) |
| **Length of fuselage:** | 42 ft. 4¾ in. (12.29m) |
| **Weight loaded:** | 10,500 lb (4,762kg) |
| **Cruising speed:** | 126mph (203km/h) |
| **Rate of climb:** | 1,745 ft./m (532m) |
| **Service ceiling:** | 15,000 ft. (4.570m) |
| **Hover ceiling IGE:** | 12,900 ft. (3.930m) |
| **Hover ceiling OGE:** | 4,900 ft. (1,495m) |
| **Range:** | 248 miles (400km) |





*Drawings are in 1/72 scale.*
*1 inch = 6 feet.*

UH-1H of the Illinois Army National Guard. (Author)

# FLYING IN HUEY

The Operations Office of Detachment 1, Company C, 47th Aviation Battalion of the Illinois Army National Guard is on the second floor of one of the more venerable hangars to grace the perimeter of one of the oldest airports in the United States. Midway Airport in Chicago was born in aviation's infancy, and the big buff-brick hangar that houses the Hueys of Det One was built in aviation's adolescence. It faces north, across nearly a mile of what should be considered hallowed ground to aviation historians. From the Operations Office, you can look across the whole expanse of Midway through wall-to-wall windows (all glazed with single panes of glass...harking back to the halcyon days of cheap energy).

Over on the north edge of the field are the big hangars that were built by United, American, and TWA, and which saw Midway become the aviation crossroads of America, back in the days of the DC-7 and Connie. Right under the windows of the Operations Office is a 20 foot wide pair of concrete pilot's wings...U.S. Army Air Corps style, which dates the building as surely as any cornerstone. The Operations Office is where the pilots of Det One get their briefings on Drill Weekends. The walls are adorned with pictures of the aircraft the unit has flown, including L-19s, OH-23s, and of course, lots of Hueys. There is something else on the wall that catches your eye. It is a framed dissertation by well-known correspondent, Harry Reasoner. It's tongue-in-cheek (presumably) message is that:

## "HELICOPTER PILOTS ARE DIFFERENT"

*The thing is, helicopters are different from planes. An airplane by it's nature wants to fly, and if not interfered with too strongly by unusual events or by a deliberately incompetent pilot, it will fly. A helicopter does not want to fly. It is maintained in the air by a variety of forces and controls working in opposition to each other, and if there is any disturbance in this delicate balance the helicopter stops flying immediately and disastrously. There is no such thing as a gliding helicopter. This is why being a helicopter pilot is so different from being an airplane pilot, and why, in general, airplane pilots are open, clear-eyed, bouyant extroverts, and helicopter pilots are brooders, introspective anticipators of trouble. They know that if something bad has not happened, it is about to.*

**Perhaps the most important part of the pre-flight inspection is right here....helicopter pilots don't wear parachutes. (Author)**

Well, I guess it is true enough that helicopter pilots are different, but they are not all brooders, and if they are anticipators of trouble, it is because they have come to expect that they will get some of the toughest, hariest flying jobs in the world. Complicating what is probably already a tough mission is the fact that helicopters are unquestionably more difficult to fly that airplanes. Is there such a thing as a helicopter that has been trimmed for hands-off straight and level flight? Nope, at least not among the Hueys flown by the army. These are, for the most part, hands-on VFR flying machines that you must fly all the time, using both hands and both feet. Ah, but the reward of helicopter flying is that really magical feeling of defeating gravity as you can in no other flying machine. I was able to share a small segment of that magic on a couple of flights with Midway based Det One in December of 1982.

The thing about Det One that seemed kind of odd to me was that there were no really young pilots in the briefing room. One of the legacies of the Vietnam War is a surplus of experienced helicopter pilots, and in this unit they have no trouble finding pilots willing to take at least one weekend a month, and a two week summer camp away from their civilian lives. Of the 23 pilots in the unit, 22 are Vietnam combat veterans. The lone exception is a notable one. He is CWO Jack Deegan, a white-haired veteran of 35 B-17 missions over Germany during World War II. Jack had over 500 hours in the B-17 by the end of the war, and flew a variety of other multi-engined aircraft in USAAC and USAF before resigning his commission in 1955. He found that he missed the flying more than he had anticipated, and when the Army Guard advertised for pilots in 1964, he joined up as a CW-2. In those days the Midway unit still had fixed wing aircraft and Jack flew the L-19 and U-6. When they became an all rotary wing outfit, he checked out in the OH-23 at Midway, then went to Fort Rucker to polish his newly minted aviating skills. He admitted that he was not looking forward to hanging it up next year, after 19 years of flying with the Guard.

As is so often the case in Northern Illinois, the weatherman had completely missed the forecast. Instead of the low ceilings and poor visibility predicted, we had a beautiful, clear-sky, see forever late autumn day. The kind of day just naturally made for flying. The pilot of our UH-1H was Major Ralph Hood, a veteran helicopter pilot who had flown Chinooks for a year in Vietnam with the 1st Cavalry Division. His co-pilot and Instructor Pilot was Captain Ron Botz. Ron had flown the Huey in Vietnam. Flying our "wing" was Neal Thompson, one of the least introverted and brooding pilots, helicopter or otherwise, that you are likely to meet anywhere. Neal had flown Cobra Gunships in Vietnam, and in a "Right Stuff" contest could probably outfighter pilot a healthy segment of the jet set. His Co-Pilot was Tommy Roche, a commercial airline pilot in "real life". This happened to be one of the drill weekends that was devoid of any rigidly structured activity, such as troop pickups or insertions. The pilots were assigned aircraft, and told to make sure they worked on *filling squares* (Army regulations require that each pilot accomplishes certain manuevers and instrument approaches on a periodic basis). We planned to fly out to one of the Army's practice areas for our two hours of *square filling*.

In spite of the fact that the Huey is basically a low and slow VFR aircraft, it is not a "kick the tires and light the fires, and let's fly" simple aircraft. There are no less than 63 separate items in 10 different areas to be checked on the pre-flight walk-around. I followed Ron around as he pushed, pulled, opened, closed, yanked, twisted and eyeballed each item to make sure that everything was in its proper place. The pre-flight winds up on top of the Huey, where the most important component of all is thoroughly checked. Failure of the rotor hub or the "Jesus Nut", which holds it together, is a non-survivable accident. "Non-survivable" is a trite euphemism meaning you creamed in, bought the farm, got wasted, blown away...your'e dead. No matter how nasty the weather, this part of the pre-flight is always treated with absolute reverence.

The pre-start and start checklists contain 84 separate items. and once we were strapped in, Ralph in the right seat (one of the ways in which helicopter pilots are different...the aircraft commander sits on the right). Ron in the left seat, and me in the jump seat between and just behind them, they started through the litany of the checklist, while I tried in vain to follow what their hands were doing as they flitted from switch to switch. Finally the Lycoming T53-L-13 began to come to life, with that characteristic whine that turboshaft engines are famous for. The main rotor began to swing overhead, and the aircraft rocked with its increasing inertia. As it spooled up to higher RPMs, the heavy rocking subsided to a less objectionable thrumming (one of the things you have to get used to in helicopter flying is a lot of vibration....it is never really smooth). The Army now requires completion of the RW Performance Planning Card before any helicopter flight. This card takes most of the factors which would affect performance into consideration, and allows the pilot to arrive at a basic set of numbers for go/no go decisions before getting into the aircraft. The operators manual contains two notes that refer to this decision. They are:

> *Pre-takeoff check will include determining if power is available for takeoff by utilizing the go-no-go takeoff data placard and checking for other aircraft.*
>
> *The basic power instrument is the N1 tachometer. In addition to the power required to hover at two feet, a 3% reserve N1 is required to climb out of a confined area. Therefore, if the engine maximum is 96.5%, takeoff from a confined area should not be attempted when the two foot hover power requirement is more than 93.5%. Maximum N1 decreases substantially as ambient temperature increases (temperature bias effect).*

Filling out the PPC while you are in the warm, roomy operations office, with all of the performance data and weather information close at hand is a lot easier than trying to eyeball it in the aircraft.....sort of like filing a flight plan in a pilot's lounge versus doing it from the cockpit. When the numbers looked right, Ralph called "coming up", and eased up on the collective. The vibrations eased as the rotor bit into the air and the weight came off the skids. Then, we had lifted, and were hovering two feet off the ground. A check of engine instruments, and Ralph gently pushed right rudder (they aren't really "rudder pedals"...they just look like rudder pedals, and they are in the traditional space occupied by rudder pedals. They are really anti-torque, or "directional control pedals", and their name says it all). The Huey pivoted about the main rotor shaft, and when we were pointed north, he nudged the cyclic and we were moving forward across the ground, in what the controllers like to call a "hover taxi". (Air traffic controllers don't want to think that you could actually fly while under the auspices of ground control, so they have created a term that acknowledges flight, but still keeps you firmly in the realm of ground control because you are, after all, "taxiing"). We joined Neal at the departure pad in the center of the airport, and with takeoff checks completed on both aircraft, Ralph called the tower and got takeoff clearance.

While helicopter pilots may not be fundamentally different than airplane pilots, helicopters very definitely are different from airplanes. If you are familiar with the conventional aircraft control system of ailerons, elevators, and rudder, it takes some realignment of your thought processes to cope with the control system on a helicopter. In the first place, the stick which the pilot holds in his right hand is called the "Cyclic". It controls horizontal direction of the helicopter by tilting the rotor...in effect, vectoring some of the lift horizontally. The lever held in the left hand is the "Collective", which controls pitch of the rotor blades, increasing or decreasing lift. The throttle is located on the collective handle, and rotates in the same manner as a motorcycle throttle. The "Directional Control Pedals" control the tail rotor, allowing the pilot to pivot the helicopter about the main rotor shaft, or about the nose or tail. If you are the kind of person who finds it difficult to chew gum and walk simultaneously, you are going to have a tough time checking out in a helicopter, since it requires a healthy amount of coordination to keep all of these forces under control.

One of the neat things about helicopter flying is that you are allowed to fly a lot lower than fixed wing airplanes. According to Federal Aviation Regulations "if the operation is conducted without hazard to persons or property on the surface."...which leaves a lot of room for subjective judgement, and show me the pilot who doesn't think that he can extricate himself from *any* situation. The general public has come to expect to see helicopters flying low, since everyone knows that helicopters can land anywhere. And, show me the pilot with any elan who does not enjoy flying low. Helicopter pilots *are* different.....they can do it legally!

When we arrived in the practice area, which turned out to be a heavily wooded government preserve, Neal began an approach to what looked like a picnic-bench sized area. I was astounded to see him land in that small clearing. I shouldn't have been, for after some rudimentary terrain masking work, they decided to play hide and seek. Terrain masking, as you might imagine, involves the use of the local topography to hide yourself from the enemy. Sounds pretty tame — it is anything but. Hovering a few feet off the ground, with a sixty foot oak tree staring you in the face, twenty feet away, gives you a renewed appreciation for the capabilities of the helicopter.

Their version of hide and seek turned out to be exhiliarating. While we remained masked, he took off for another area of the preserve. The idea was for him to land his aircraft in an area we couldn't find. When he was in place, he called and we rose to the search.

When I said flying low was fun, this was what I meant. As Ralph turned away from the big tree in front of us, he eased up on the collective, and forward on the cyclic. We shot across the small clearing and flashed over the trees at the far end. A thousand stark, barren limbs reached for our skids as we swept across the deep woods searching for Neal. There is really nothing so exciting as flying low and fast, and ever since the introduction of the hand-held, shoulder-fired heat-seeking missile, that has become the standard tactic for helicopter survival on the battlefield. What we were doing was flying "nap of the earth", a terrain-hugging profile designed to keep helicopter exposure to enemy gunners to a minimum. It is guaranteed to get your attention and, if you are a pilot, keep it — if you intend to survive. It wouldn't take much of a lapse of concentration to create a disaster.

After a search of a few minutes, we spotted Neal's Huey in a clearing...near a phalanx of high tension wires, and covering tree line. Getting in there had been a real feat of airmanship, but now it was our turn to show off by finding an equally impressive hiding place. Ron spotted one which reminded me of some of those pictures of impossible landing zones you have seen, with the Huey hovering impossibly close to trees while ammo is off-loaded, or wounded are rescued. Ron brought us in over it, and hovering, carefully aligned the Huey to fit. A small stream ran through the middle of the clearing, making it necessary for us to keep the skid on that side in the air. We eased down into the clearing, with Ralph calling the clearances on his side, while Ron demonstrated rock-steady hands. The long, dead, autumn grass flattened and waved under us, the shallow water in the stream was beat frothing, and the smaller trees bordering the clearing waved with the force of the rotor wash. I wasn't all that disappointed when Neal found us right away, allowing Ron to get us out of there, clear of all those trees...which became more menacing the longer you stared at them and tried to guage the distance from the rotor to the tree. Thats the thing about flying a helicopter ... with a fixed wing airplane, you can look out and see the wing, and judge just how far away from a tree, or bridge, or whatever it is you are trying to miss. But with a helicopter, the wing is going around....and it just isn't all that easy to see. You really have to have that wing fixed in your mind's eye.

We next found Neal flying down a small stream ... at an alitude of 2 feet...between trees. I was beginning to be impressed with the quality of the aviating. Not only were they flying low, they were also showing a deftness of touch that only comes with thousands of hours of flying. And in spite of the fact that I enjoyed the flying we had done, I was getting a little weary of the constant shaking. I wondered if a helicopter pilot ever really gets used to that brain-rattling thump, thump, thumping...does it just become a fact of life? Or, do they fatigue faster than a fixed wing pilot? If I was any barometer, they did get tired of it, and if the shaking didn't get you, the constant attention to flying would. During the whole two hours-plus of flying on that day, and four-plus hours on a subsequent day, I never saw the guy flying the helicopter with a hand free...not even to scratch his posterior (which, I discovered, can develop a hell of an itch from the constant thrumming).

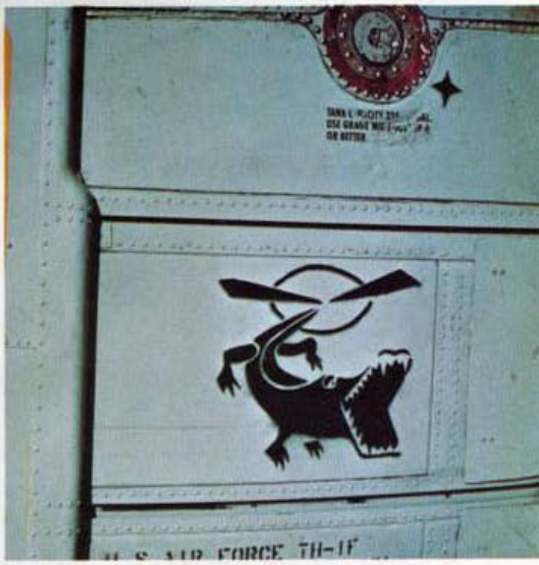
Enroute back to Midway, I had a chance to reflect on flying the Huey, and I was struck with the fact that, though we were flying a very complicated and expensive piece of aerial machinery, we were not getting from here to there any faster than Lindbergh had over fifty years ago. That, more than anything else, accentuates the peculiar spot the helicopter occupies. It is a unique piece of equipment, optimised for a particular mission, one which we don't think of in conventional aeronautical terms. And the Huey is not your ordinary, run-of-the-mill flying machine, no matter how many thousands are finally produced, and how familiar they become to people the world over. I guess maybe Harry was right ... Helicopter Pilots are different ... different, but no less skilled, and no less dedicated to their profession.


(Above) HU-1B on the flightline at Tan Son Nhut, 21 February 1963. It is loaded for a mission to escort H-21 Shawnees of the 57th Transportation Company. (U.S. Army via Wayne Mutza)

(Below) UH-1E in the original "as delivered" markings configuration. (Bell)



(Left) HH-1H of the 37th Aerospace Rescue and Recovery Squadron at McConnell AFB, Kansas, May of 1976. (Jerry Geer)

UH-1F of the 35th Tactical Fighter Wing, at George AFB, California. It was dubbed "Chopper Gator", and marked accordingly. (Capt. Wallace T. Van Winkle)

HU-1A of the Utility Tactical Transport Company flying cover during "Operation Guy Phuong (9)" in the vicinity of Phu Tho, February of 1963. (U.S. Army via Mutza)


HU-1B with the M-6 machine gun system and rockets, 12 February 1964. (U.S. Army)

UH-1Bs supporting ground troops in a rice paddy in February, 1965. By this time, Huey gunships had acquired the name "Cobra". (Bell)


"Horsethief" in a four color scheme while being used by the 335th as their recovery ship. (Wayne Mutza)

(Above) The 335th's standard camouflage scheme was Olive Drab and Flat Black, shown on this B model undergoing maintenance at Camp Bear Cat. (Wayne Mutza)

(Below) "Horsethief", of the 335th, carried a unique four color camouflage scheme of two Greens, a Brown and Black. (Wayne Mutza)

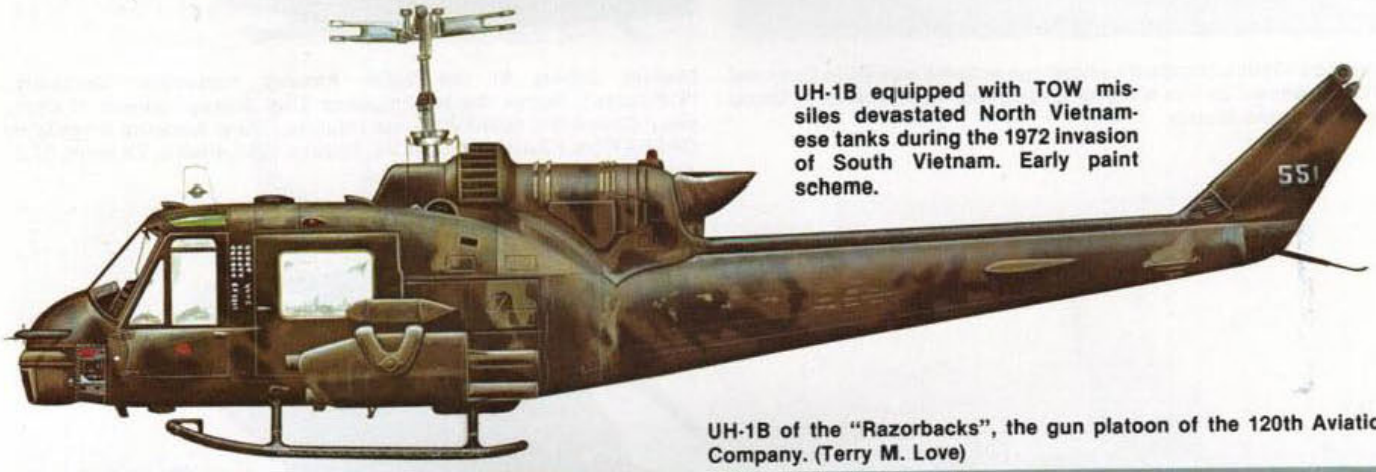
(Below) UH-1H of the 335th Assault Helicopter Company, "Cowboys", leaves the landing zone after lifting troopers of Company C, 2nd Bn, 503rd Airborne Infantry, 173rd Airborne Brigade in OPERATION FRANCIS MARION, 11 June 1967, Pleiku, Vietnam. (U.S. Army via Mutza)

Insignia on the nose of a UH-1D of the 116th Aviation Company at Bien Hoa during March of 1966. (Lex McAulay)


The gun platoon of the 71st Assault Helicopter Company was known as the "Firebirds", and carried this insignia on the tails of their B models. (Lex McAulay)

"Dragon Six", a UH-1H. (Capt. Ron Botz)


UH-1B of the 145th Airlift Platoon as it appeared in Vietnam, December 1964.



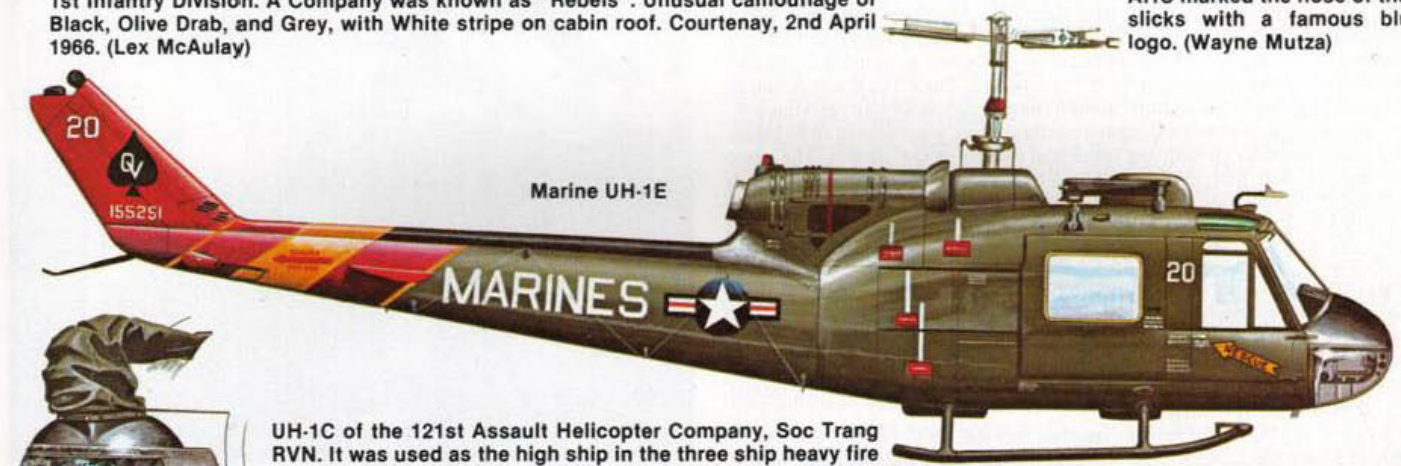

UH-1B equipped with TOW missiles devastated North Vietnamese tanks during the 1972 invasion of South Vietnam. Early paint scheme.

UH-1B of the "Razorbacks", the gun platoon of the 120th Aviation Company. (Terry M. Love)

"Nancy" a B model gunship belonging to A Company of the 1st Aviation Battalion, 1st Infantry Division. A Company was known as "Rebels". Unusual camouflage of Black, Olive Drab, and Grey, with White stripe on cabin roof. Courtenay, 2nd April 1966. (Lex McAulay)


"Blue Flight" of the 240th AHC marked the nose of their slicks with a famous blue logo. (Wayne Mutza)

Marine UH-1E




UH-1C of the 121st Assault Helicopter Company, Soc Trang RVN. It was used as the high ship in the three ship heavy fire teams, and as high ship, drew more than it's share of fire. It was used to break in new members of the gun platoon, and earned the name "Cherry Buster". It was armed with the M-5 40MM grenade launcher and rocket pods. The 40MM was dubbed 'Thumper" as a result of it's distinctive sound.


"Big Train" a UH-1B gunship with the M-5 grenade launcher in the nose and M-3 48 shot rocket packs which made it a "Huey Hog" at Vo Dat, November of 1965. (Lex McAulay)

# WAR

The first Hueys arrived in Vietnam in early 1962, as a section of the 57th Medical Detachment (Helicopter Ambulance). The first widely recognized group of Hueys to see action arrived in September of 1962. They were 15 HU-1As, which took part in a test of the effectiveness of the armed helicopter. The test period was from 16 October 1962 to 15 March 1963. The unit was called the Utility Tactical Transport Helicopter company, and they logged a total of 1,779 combat hours during the test period.

The HU-1As were fitted with WWII vintage 30 caliber machine guns and rocket launchers which had to be attached with field-fabricated mounts. In November of 1962 the UTTCO received 11 HU-1Bs, which came complete with factory fitted M-6 quad machine gun systems. Their increased load-carrying capability permitted field fitting of 16 2.75 rockets. UTTCO tested and confirmed the feasibility of armed helicopter escort of the troop carrying helicopters, which up until that time had been carried out by the delicate H-21 "Flying Banana". UTTCO also demonstrated the superb flying qualities and maintainability of the Huey under combat conditions.

When the test period had ended, it was obvious to the Army that the troop carrying helicopter of the immediate future was the Huey, and they began replacing the H-21 with Hueys. The Airmobile Company was organized into one platoon of armed helicopters (later to be known as gunships) and two platoons of troop-carrying, or "lift" helicopters. The UH-1B was seriously hampered by weight limitations, in both the gunship and troop carrying role. The gunships, in their normal loaded configuration, were limited to 80 knots, and could not keep up with the faster and cleaner troop carriers. The troop carriers, for their part, could be loaded to over 2,100 lbs *over gross weight* because of the spacious cabin. Field commanders had to place limitations on the number of troops carried, and made the pilots responsible for enforcing the rules, and for ensuring that the weight and balance envelope was not breached.

By early 1964, there were 250 Hueys in Vietnam. They were organized into "Eagle Flights", which the American advisors utilized to provide ARVN with the capability to react quickly to Viet Cong attacks, or to intelligence reports of Viet Cong activity. The Eagle Flights consisted of seven troop carriers, five gunships, and one command and control Huey, usually a gunship. All of these were B models.

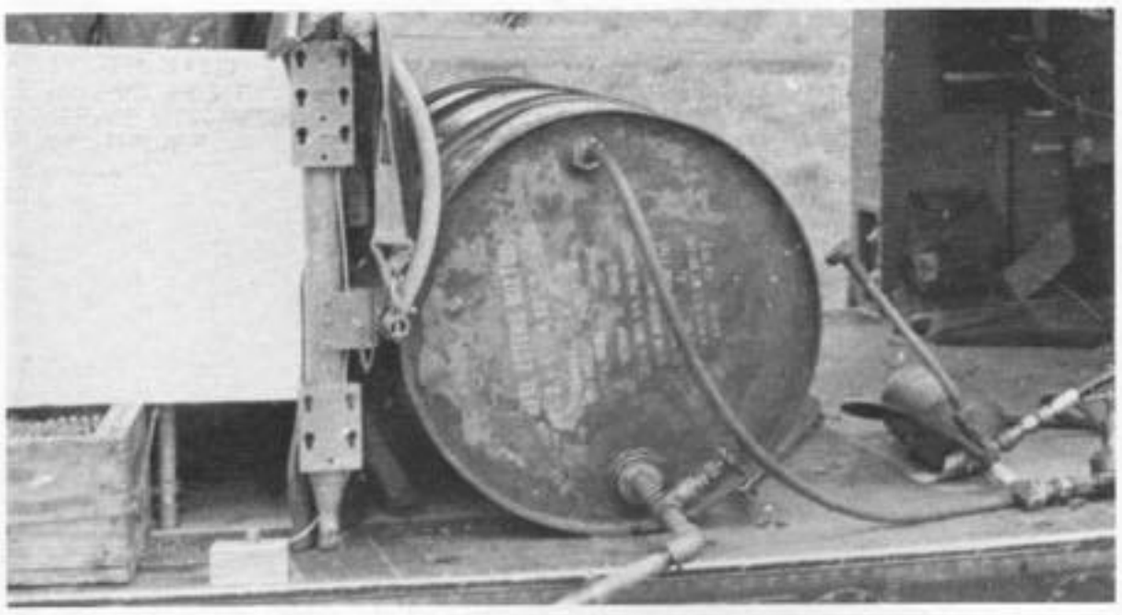
By early in 1965 it had become obvious that the ARVN would not be able to hold South Vietnam on their own. Increasing Viet Cong pressure, in concert with overt North Vietnamese actions, had brought the situation to a critical juncture. The concept of Airmobility had been given legitimacy by the Armys Tactical Mobility Requirements Board, popularly known as the Howze Board in honor of it's chairman, General Hamilton H. Howze, former Commanding General of the 82nd Airborne Division. Now it was time to test this latest concept for real, and it was the Huey, more than any other aircraft, that made airmobility feasible.

On July 28, 1965, President Johnson announced: "I have today ordered to Vietnam the Air Mobile Division...." The Division he was speaking of was the 11th Air Assault Division, the prototypical airmobile unit. Units of the 2nd Division and the 11th would be reconstituted as the First Cavalry Division (Airmobile). Major General Harry W.O. Kinnard was given just four weeks from July 1 to get this new outfit combat-ready. When the President made his announcement, they were ready, and began leaving for Vietnam the following month. A month after that they took their Hueys into battle in Operation Gibralter. The American presence in Vietnam would continue to grow, and with it the missions assigned to the Huey. The combat narratives that follow provide a first hand look at some of those missions.

**UH-1D zipping across Tan Son Nhut in December 1965. (USAF)**

**UH-1B gunship of the 71st AHC, "Firebirds" used a popular firebird logo of the day on the nose of it's B models. Song Be 1966. (Lex McAulay)**

**The Huey, more than any other helicopter, made quick battlefield casualty evacuation a reality. (Bell)**



**The official caption calls it "An agricultural plant sprayer used by the 173rd Abn. Bde." It carried Agent Orange, the defoliant used to deny the enemy the concealment of the jungle. (U.S. Army via Mutza)**

**Early in the war it became evident that the good guys would have to find ways to deny the night to the bad guys. This UH-1D mounted the "Lightning Bug" and a 50 caliber machine gun. (Bell)**

**UH-1B of the 13th Aviation Battalion at Soc Trang during 1966 with "Lightning Bug" searchlight modification. (Bell)**

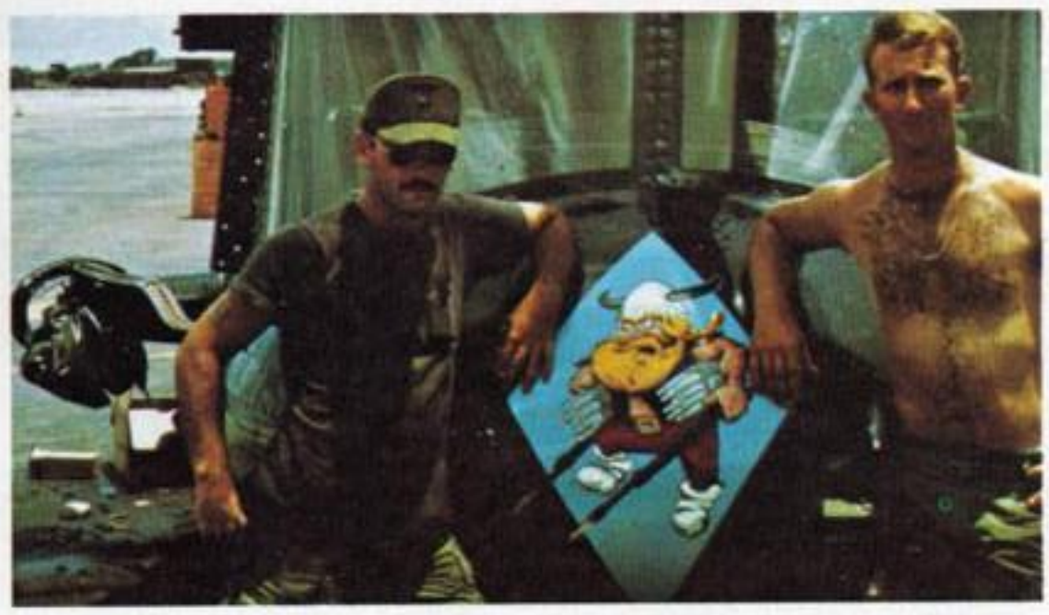
After his first week in country, Captain Ron Botz was sure he would never survive for the one year tour of duty all Army personnel served in Vietnam. As the airplane carrying him into the country touched down at Tuy Hoa, Viet Cong mortar rounds began landing on the airfield. The pilot of the big jet transport slammed the throttles forward and made it a touch and go landing, continuing on to Pleiku to disembark his passengers. There were no mortar rounds at Pleiku, but as Botz got on the bus that would carry him to the replacement center, a sniper opened up on them. On his orientation flight in-country, they had landed at a firebase. Ron was sitting in the right seat, while the crew chief was checking something on top of the aircraft, and the aircraft commander was outside, conferring with the Battalion Commander on mission requirements. Suddenly, there was a volley of small arms fire. Ron, fresh from a stateside training environment, never considered that it might be the enemy, and continued to sit in the cockpit. The crew chief dove off the top of the Huey, while the aircraft commander sprinted around to Ron's door and yanked him out, yelling, "Get down! That's sniper fire!"

Botz had arrived just in time for what he described as "the Tet Offensive Cleanup" in March of 1968. Battlefield communications being what they are, a lot of the Communists did not yet realize that they had suffered a major defeat. The remaining V.C. and N.V.A. regulars were still giving their all for the greater glory of Uncle Ho, and Botz would see plenty of action during his year in Vietnam flying the Huey. He was assigned to the 4th Division, at Pleiku. The 4th had one of the largest AOs (Area of Operations) of any of the units in country, extending their reach from Mang Buk in the north, to Ban Me Thout in the south. Some of the fiercest battles in the war were fought in these central highlands, and his recollections of his tour are typical of what the Huey pilot faced in 1968.

"I began my tour flying "slicks", (D or H versions of the Huey) but was soon transferred to duty as pilot for the Assistant Division Commander Bravo, who was the tactician for the 4th Division. One action in particular I remember involved a convoy that was headed up the highway from Pleiku to Kontum, a distance of less than 30 miles. Two battalions of North Vietnamese Regulars had lined themselves up on either side of the road in ambush. The convoy commander, for some reason I'll never figure out, put tank trucks full of JP-4 at the front of the convoy. The NVA hit the lead truck and it blew up, creating a traffic jam. We had about eight gunships escorting the convoy, and as they flew over, the NVA put their rifle butts in the ground and fired straight up in unison, shooting down five of the eight! Flying one of those gunships was a guy by the name of Curt Hothschild. Curt was one of those guys who just naturally attracted fire. If someone fired a round in the air, anywhere in Vietnam, it would come down and hit him. He took a hit from a B-40 rocket, which detonated between the skid and the door of his Huey, blowing out both windscreens and bowing the whole fuselage. He said when it exploded he had no idea of where he was..whether the aircraft was upside-down, or right-side up. Amazingly, the Huey continued to fly! He made it back to Pleiku, picked up another gunship, and went back to the fight. He was a determined guy, and survived his tour in spite of his adventures.

The situation was really getting out of hand at the ambush site. The convoy commander had been wounded, and the NVA were really chewing up what was left of the convoy. We had been on standby for the General, and were available when the call came to take the Provost Marshall in to the site to take command of the convoy. The Air Force had been called in to provide close air support, and they had F-4s and A-1s pounding the area on both sides of the road, while artillery from firebases around Kontum was also called in on the enemy positions. We came over the road at 2,500 feet so that the Provost could get a good look at the situation, and so that we could remain out of small arms range as long as possible, not to mention avoiding a collision with an incoming artillery shell. Our approach was a virtual auto-rotation, with a 4,000 FPM rate of descent. I was on the radio, and the Aircraft Commander was flying. It was some neat piece of flying too! We touched down, the gunner and crew chief got the passengers off the aircraft, and we took off, all within the space of a few seconds! I never saw any tracers, didn't hear any fire...no-

UH-1H of the 199th Infantry Brigade. (Glenn R. Horton, Jr.)

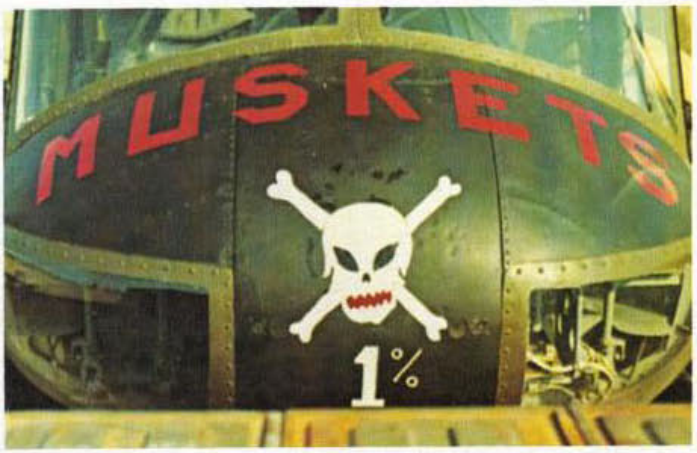



(Above) The Soc Trang Tigers gun platoon was the "Vikings", and a local artist did the Viking justice on the nose of this UH-1B. (George Weiler)

(Top Right) Individual Huey marking observed at Xuan Loc in 1966. (Lex McAulay)


The personal aircraft of Prime Minister Nguyen Cao Ky was this all Black UH-1B. He had two of them, given to him by General Westmoreland in return for the real estate his headquarters was built on at Tan Son Nhut. (Terry M. Love)

The 335th Aviation Company "Cowboy's" Hueys carried Olive Drab and Black camouflage at Tan Son Nhut, December 1966. (Terry M. Love)

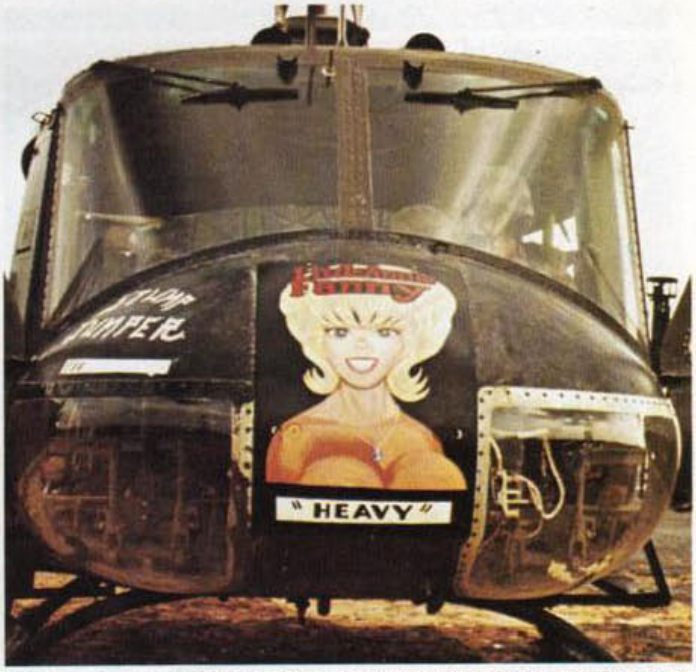



The gun platoon of the 176th AHC was the "Muskets", based at Chu Lai, RVN during the summer of 1971. (Mike Campbell)

Night Hawk Huey of the 120th Assault Helicopter Company "Razorbacks". (Wayne Mutza)

II Field Force Huey. (Glenn R. Horton, Jr.)

"Sleezee Dee", a UH-1H of the 116th AHC "Hornets" at Phu Loi, RVN. (Glenn R. Horton, Jr.)




"Stump Jumper", UH-1H of the 117th AHC "Annie Fannies", at Bien Hoa, RVN. (Glenn R. Horton, Jr.)

thing. It just seemed routine. But when the after-action reports came in, we were put in for the Air Medal with "V". We found out that just as we had touched down, we had been charged by five NVA troops, firing AK-47s as they came. Our door gunner could not fire back, since the passengers would have been caught in the cross-fire. They couldn't do anything, and neither could the troops on the ground....we just had to sit there and take it until the passengers were off-loaded. Fortunately, those NVAs were bad shots...they missed.

In my tour, I flew slicks, gunships, and the V.I.P. mission. The toughest campaign I was involved in started in August of 1968, when the North Vietnamese launched a major attack on the Special Forces camp at Duc Lap. Duc Lap is southwest of Ban Me Thuout, on the Cambodian border. The NVA apparently were planning a major offensive, in an attempt to cut the country in half. We were transferred down to Ban Me Thuout in a hurry, joining an Air Force gunship outfit with UH-1Fs, 1st of the 10th Cav, and B Troop, 7th of the 17th Cav with B and C model gunships. We didn't have time to set up a real good perimeter defense, and they hit us right away. What a mess! It was night, and everyone was shooting...not knowing what, if anything, they were hitting. One of the crew chiefs managed to get to a guard tower that hadn't been manned. He got on the 50 caliber machine gun, and started shooting NVA sappers who had penetrated the gate. Unfortunately, when the other guys saw him shooting at targets inside the compound, they mistook him for a sapper, and shot him dead!

The Assistant Division Commander I worked for was named A. R. Brownfield. He was a real "Soldier's General". He cared about the troops, and we saw more action flying him than we did when flying the gunships. The General always wanted to take part in the combat assaults, to be on the ground with the troops. Once, when a large enemy force had been spotted in an area we called "The Doughnut"...a perfectly round stand of dense jungle growth surrounded by flat grasslands....he called for a unit of mechanized cav — tanks — to close in on the area and annihilate the enemy force. Well, it looked simple from the air, but once in the jungle, the tanks couldn't seem to maintain the proper heading. The general had us right down on the tree-tops, while he stood out on the skid yelling directions at the tank commanders....and his vocabulary rivaled that of Patton, believe me!

One of the toughest aspects of flying in the Central Highlands was trying to operate in bad weather. On the highway from Pleiku to Kontum there is a mountain we called "Dragon Mountain". It is the highest mountain in that area of the country, and it sits astride the highway. When the weather went down, most guys would try to get from here to there by following roads. When I got there in 1968, the wreckage of 27 aircraft was scattered on the side of Dragon Mountain. Our camp was on a mountain, and there was a deep gully running alongside the runway. It was probably 50 or 60 feet deep, and 150 feet across. One day while we were on alert, we got the word that an enemy company was trying to sneak up on us through the gully. We scrambled and began flying up the gully. We were real low....trying to draw fire so that we could pinpoint the enemy and unload on him. I was about a half mile behind the lead aircraft. (We maintained that spacing so that if something was spotted we would be in position to set up a racetrack pattern). Suddenly, there was an explosion behind the lead aircraft! We orbited the spot, and eventually spotted an enemy soldier lying in the grass, dead. We were flying so low that he had thrown a grenade at the lead, but his timing was off, and he blew himself up! They would throw anything at you....we even had an airplane come back with a crossbow arrow through the stabilizer! At one time during my tour, it was announced that the Division base was surrounded by 23,000 North Vietnamese regulars. We received incoming rockets and mortars on a regular basis, and had a nightly fireworks display, what with all the flare ships, and Spooky working the perimeter.*

Before I went to Vietnam, while I was still in school, I had imagined that the Viet Cong was a really primitive, rag-tag outfit, which we would not have much trouble with. The truth of the matter was that the communists, particularly the NVA regulars, were for the most part very disciplined, patient, and tough. Some of them were smart and cool in the bargain. Take, for example, the case of the NVA forward observer that ambushed a fuel convoy enroute from Kontum to Dak To. He waited until the escorting gunships had flown over his position, putting himself between them and the convoy. Then he blew one of the fuel trucks with a B-40 rocket. While we were making our turn to clear the convoy so we could shoot him, he took advantage of all the confusion on the ground to run across the road, keeping himself between us and the convoy. I don't think we ever did get him!"

*** "Spooky" was the call sign of the AC-47 gunships, which carried three 7.62MM miniguns, and whose 6,000 rounds per minute rate of fire produced a solid stream of fire from the aircraft to the ground, literally setting the ground on fire. For more information on fixed wing gunships used in Vietnam see GUNSHIPS, A Pictorial History of Spooky by Larry Davis. Squadron Signal Publications, 1982.**


**Nguyen Cao Kys "other" Huey was also all Black, but carried a two star insignia behind pilots door. Tan Son Nhut AB, September, 1966. (Terry M. Love)**

**UH-1C of the flight section, 1st Aviation Brigade, September of 1966 at Tan Son Nhut AB. (Terry M. Love)**

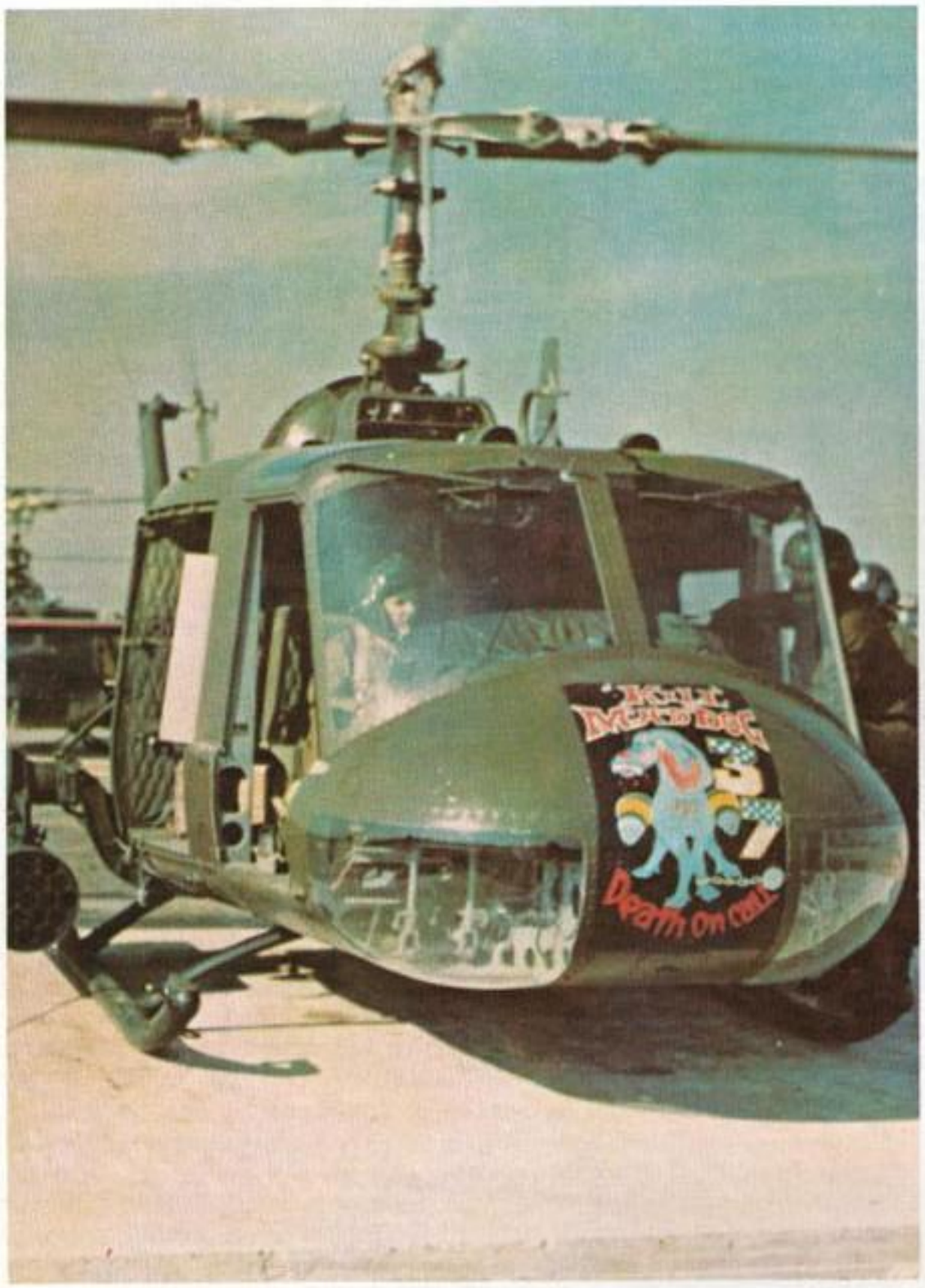
UH-1B of the 334th AHC gun platoon "Dragons" at Pleiku, RVN during April of 1966. The 334th was based at Bien Hoa. (USAF via Mutza)

U.S. Army UH-1H in USAF four color camouflage, unit unknown. (Glenn R. Horton, Jr.)

Troopers of the 4th Infantry Detachment (War Dog Provisional) loading a Huey for the return trip to Camp Enari after a February 1969 patrol. (U.S. Army via Mutza)

UH-1B of the 120th AHC "Razorbacks" armed with XM-5 and XM-157 systems, at Tan Son Nhut, 28 March 1966. (U.S. Army via Mutza)

"Razorbacks" Huey Hog escorting the Huey of General Harold K. Johnson, Chief of Staff of the U.S. Army, during his inspection tour of Vietnam in December 1965. (U.S. Army via Mutza)




UH-1C gunship of the 240th AHC gun platoon "Mad Dogs" refuelling at Camp Bear Cat, January 1971. (U.S. Army)


"Seawolf" UH-1B shortly after repainting, prior to delivery to HAL-3. (Bell)

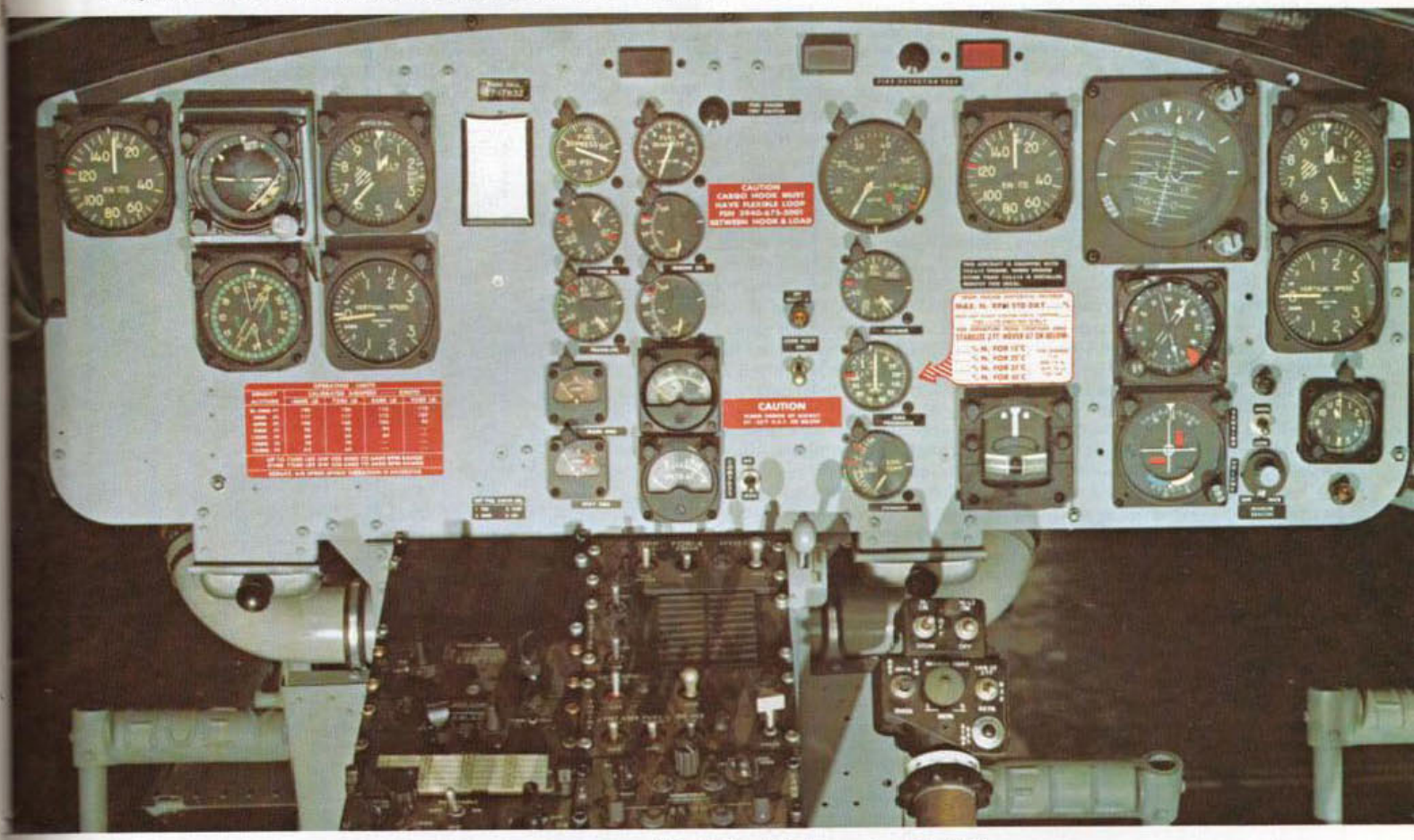
Air America 204B, N8514F, on the Saigon River, February 1970. (Via C.B. Mayer)


UH-1H of Air America, the CIA's airline, which operated the Huey in Southeast Asia from the beginning to the end of the war.


HH-1N in European I camouflage as it appeared at RAF Bentwaters September, 1981.

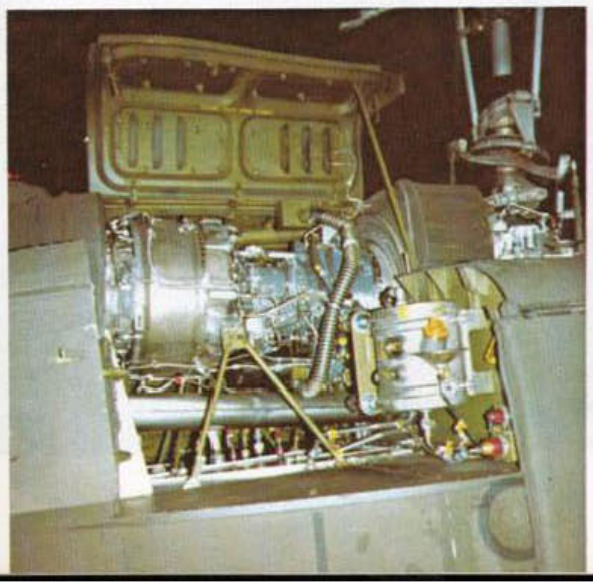
TOW equipped UH-1Bs carried TOW emblem on nose, with the words "Whispering Death" in Red barely visible under the word "Team". They were fitted with heat masking exhaust devices. Seen loading

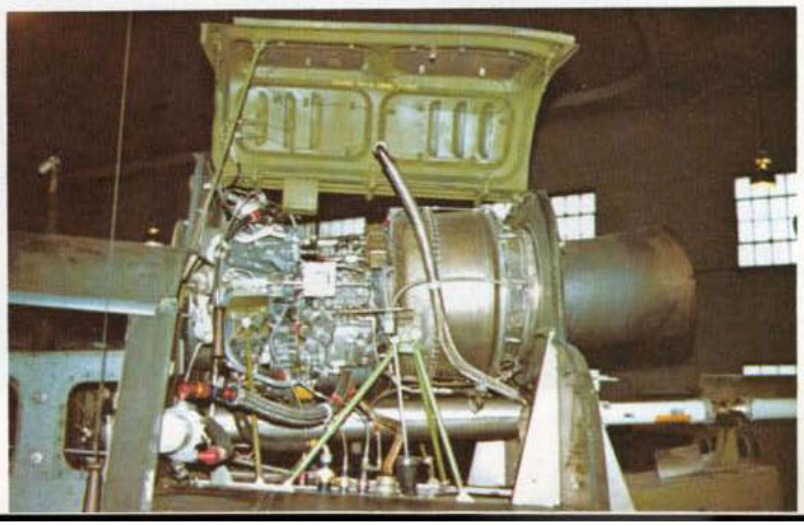
TOW missile is Captain Bentley Hill, while Captain Terry Gannon looks on. They were members of the 12th Combat Air Group at Bien Hoa AB, RVN. 2 November 1972. (U.S. Army via Mutza)



(Above) Huey instrument panel. (Bell)

(Left and Below) Lycoming T53-L-13 engine installed in UH-1H. (Author)





One of the major roles of Huey was that of Gunship. The Gunships were heavily armed B, C, and M models of the Huey that were tasked with providing organic support for infantry units. The idea was to integrate close air support, giving the ground commander more control, as well as faster and more accurate aerial support. The Air Force "fast movers", while they carried more and heavier munitions, could not provide the enroute fire support, nor could they always be relied upon to put the ordnance directly on a pinpoint target. The gunships were usually assigned to helicopter lift companies, and accompanied them on "CAs" (Combat Assaults).

CWO George Weiler flew with the 121st Assault Helicopter Company, the "Soc Trang Tigers". His reminiscences of that tour of duty provide a good example of what it was like: "The 121st was a unit that boasted a long history of combat in Vietnam. We operated out of Soc Trang, which is about 100 air miles southwest of Saigon, just below the Mekong River Delta. Our airbase had been built by the Japanese during World War II, and included permanent buildings, which we lived in, and an asphalt runway. The hard-surface runway was particularly useful to us, since we were operating the B model which was notoriously under-powered, even after they were upgraded from the L-7 to the L-9 engine. On hot days (and there were plenty of them), we were forced to make a choice between fuel or weapons, and most of the time we flew with partial fuel loads, so we could carry more ordnance. The B model has the same rotor head as the D and H models, but the rotor blades are not as long, and provide less lift. The aircraft just didn't want to hover, so many times we would end up taxiing out on the skids, then just skipping down the runway at minimum power, just trying to maintain as much RPM as possible. As the aircraft got to effective translation of lift, it would fly ... and the RPMs would come back up where it was supposed to be. The asphalt runway allowed us to do that semi-safely. If we had had a PSP (pierced steel planking) runway, we would probably have hooked a skid and rolled the aircraft up in a ball.

Our sister company at Soc Trang, the 336th, was equipped with the C model. Which had the larger L-11 engine and carried more fuel, which gave them a longer time on station than us. The rotor head of the C model was different, and they could not use this trick to get airborne (an overload condition that resulted in loss of RPM would "unload" the rotor, and the aircraft would just settle back to the ground). So, it was generally easier for us to get airborne. The Delta, of course, is pretty flat, and close enough to sea level that you could set your altimeter at zero and be safe. If the weather got a little skosh, you didn't have to worry about flying into a mountain. And once you got to know the canal system, you could use it just like a road map to find your way to your destination when the weather was down.

I was at Soc Trang in 1969 and 70, during the period they were beginning to "Vietnamize" the war. We were supporting the 9th US Infantry Division and the 7th and 21st ARVN Divisions. About three months after I arrived in-country, the 9th packed up and went home. Our parent unit was the 13th Aviation Battalion. Once the 9th left, the units of the 13th were given specific assignments, and we wound up supporting the 7th ARVN Division, which had its headquarters at Bac Lieu, just a few miles southwest of Soc Trang. Our missions consisted of escorting "slicks" on resupply missions, C-123 defoliation aircraft, or night airfield security flights. I logged 1,800 hours in a 17 month period, which I believe was about average for that part of the country. (The weather had a much more adverse affect on the units which operated in more mountainous terrain, and could not take the chance of flying "routine" missions in low ceilings and visibilities.) I did not take part in

**UH-1H of the 175th AHC "Outlaws" suffered a near miss from a V.C. mortar shell, June, 1967. (Terry M. Love)**

**(Right) "Dustoff" Huey dropping into a landing zone to evacuate wounded. (Bell)**

**Crashed UH-1D of the Soc Trang Tigers, 121st AHC. (Terry M. Love)**

any of the big name operations, and the action varied from day to day, and from mission to mission. For example, when you went out on an airmobile assault, there would be five or six lift aircraft (UH-1H), and a fire team of gunships, light or heavy depending upon other support commitments for that day. (A Heavy Fire Team consisted of three gunships, two low and one high, while the Light Team had only two gunships.) You would launch and fly to one of the staging fields in the southwest quadrant of the 4th Corps area. We would get our briefing from the air mission commander at this field, then go on out to the area of the Landing Zone picked by the mission commander to look it over. After determining whether or not it looked safe, we would make our recommendation to him. If it looked unsafe, we would try to find a better area nearby. Once the LZ had been designated, we would "prep" it with suppressive fire, then call in the slicks, who would be airborne and orbiting a few miles away. We would meet them a couple of miles short of the LZ and escort them the rest of the way, reacting to any fire they might draw as they made the troop insertion.

The hottest area that I operated in was the U Minh Forest, which runs along the entire west coast of South Vietnam. The U Minh was a communist sanctuary when the French were fighting the Viet Minh, and it hadn't lost any of its menace by the time we pulled out. In fact, we never went in there without running into trouble. One mission in particular I remember involved a half a dozen lift ships (UH-1Hs), and a light fire team, which I was leading. We reconned the area, prepped it a little bit, and called the slicks into what we felt was the best available LZ. (There never really was a good Landing Zone out there.) It turned out to be a hot LZ, and all hell broke loose as the slicks inserted the troops. We hung in there providing fire until the slicks were clear, then started out of the area. Suddenly, my panel lit up with the Master Caution Light. We had taken three rounds in the engine, and it was dying. The only safe place to land was back on the LZ. We knew it was the only spot for miles around with friendlies present. I turned back, escorted by the other gunship, and the trail lift ship. (S.O.P. in the case of a downed aircraft was for the last slick out of the area to recover the crew of the downed aircraft.) On short final to the LZ, which was a rice paddy, everything went. We jettisoned the rocket pods and crashed into a paddy, which had three feet of water in it! The worst part of the whole deal was fighting our way through that water to the lift ship that rescued us! The aircraft was later recovered by a Chinook. It was repaired and went back into serivce.

In spite of the fact that we sustained a lot of combat damage, we had a pretty good record as far as combat losses were concerned. I believe we only lost three aircraft to hostile action while I was there, two B models and an H model. We were never absolutely sure of the H either, since it blew up in the air during a nighttime airfield security mission, and there was at least the possibility that they had blown themselves up with a grenade or a stick of TNT, both of which they liked to drop around the perimeter, just to give the VC something to think about. We lost four people in that one. Aside from that, I can only think of one other fatality. We also took part in the 1970 invasion of Cambodia, which was as close to conventional warfare as it was possible to get in that war. We spent about a month in Cambodia, operating from a permanent airfield, and engaging the North Vietnamese regulars for the first time. We actually got targets such as buses on the highway, transporting enemy troops. (The North Vietnamese had taken over Kompong Som, the Cambodian port, and were shipping war materiel by sea, unloading it, and using major highways to transport it to the border areas of South Vietnam.) The Cambodian operation was a real success for us, and bought a lot of time for Vietnamization.

The reason that we were tasked with providing support for VNAF during my tour of duty was that they did not have any gunships at that time. Flying with them was interesting, if somewhat puzzling at times. Their lead aircraft always had an Instructor Pilot in it, and it wasn't uncommon for them to stop in the middle of an operation, just because it was lunchtime. They also did not fly when the weather was marginal, or at night. This created problems, because they always had to get back to thier base before dark, and would often break off in the middle of some operation. The thing of it was, those were their own troops they were supporting, and if it was getting dark, they just left them and went home. Of course, one of the worst things about flying in Vietnam was flying at night, since there were no Navaids at all, and when it got dark, it really got dark! Any gun runs you made at night had to be done under flares, which was damn tricky. Our attitude was "You do what you have to do to get the job done." I think their attitude was to survive the war, and it had been a long war, and would probably continue for years to come. Just before I left, we turned over Soc Trang Airfield to the VNAF, and retired the colors of the 121st Aviation Company, ending an eight year tour at Soc Trang for the 121st."

**UH-1H of the 215th Helicopter Squadron, VNAF, from Nha Trang AB, at Phu Cat AB, RVN, January of 1971. (Norman E. Taylor)**

**VNAF Huey of the 211th Helicopter Squadron inserting ARVN troops in a cold LZ in the Delta, July of 1970. (USAF via Mutza)**


Bell 412 of the Venezuelan Air Force. (Bell)

Augusta Bell 205 of 802 Search and Rescue Squadron, Spanish Air Force. (Salvador Mafe Huertas)

UH-1H Air Ambulance at Fort Sam Houston. (Wayne Mutza)

USAF HH-1H of the 384th Missile Wing, at Forbes Field, Kansas, September, 1981. (Jerry Geer)


HH-1K is the Navy version of the UH-1E, with T-53-L-13 engine, at Davis Monthan AFB, 1981. (Wallace Van Winkle)

Glenn R. Horton, Jr. spent his tour in Vietnam as a medic. He recalled that; "First, above all else, I NEVER wanted anything to do with the Infantry on the ground! Unfortunately, the Army didn't see things that way. Consequently, my first exposure to the Huey came as a grunt medic going in on combat assaults. I always hated having to jump out of that chopper everytime we went in. I have very fond memories of that old "whop, whop, whop" sound of a Huey coming in to pick us up. That was always a welcome sight. I didn't get the chance to fly as a regular crew member until June of 1970, when I finally got out of the field. One medevac mission I did get to fly before then occured on 1 April 1970. I was in our forward Tactical Operations Center (199th Light Infantry Brigade) at Xuan Loc, when the call came in. It was strange, in that they wanted a real doctor on the flight, and I had never heard of a doctor risking himself on a combat pickup. As it turned out, the patient we were going out to pick up was our own Commanding General, William R. Bond. He had gone out to see elements of Delta Troop, 17th Cavalry, that had been involved in some heavy fighting. A sniper had shot him. The General never knew what hit him...the gook sniper had gotten a perfect hit...in under one armpit, and out under the other, through both lungs and his heart. I think that we were the last unit to lose a General Officer in the war. We flew his body down to Long Binh, to the 93rd Evac Hospital. There was a memorial service later, which Ambassador Ellsworth Bunker, and MACV Commander Creighton Abrams both attended.

I was shot down twice during my tour. In the first shoot-down, we had gone out to pick up some guys and were lifting off when a gook let us have it from directly below. We had unwittingly landed on the tunnel hole where this guy was hiding. We we lifted off, he had a perfect shot at us. We had only gotten about 10 or 15 feet of altitude when he blasted us. We crash-landed right on top of him, killing him. Fortunately, none of us were injured. The second time I was shot down was also on a medevac pickup. We were in a valley, and got hit by fire from the side of the mountain. We auto-rotated, but still hit the ground hard. The Huey caught fire and exploded. I wasn't hurt, and was able to pull several of the others out before the explosion. There were a few broken bones in that one. My best memories of the flying over Vietnam were the early morning Combat Assaults or supply trips. It was refreshing to be high in the cool air, smoking a cigarette, listening to AFVN, the armed forces radio network, on the headsets. Vietnam was a smelly, dirty country on the ground, but once you got three or four thousand feet in the air, it was really beautiful, and we saw some incredible sunrises, which helped to reconfirm your faith that there was a sane world."

**UH-1H of the 101st Airborne Division configured for the "Dustoff" mission with litters and internal hoist. The Crew Chiefs "Chicken Plate" (body armor) and "Monkey Strap" (restraint harness) are clearly visible. (Wayne Mutza)**

**UH-1D "Helen Sue" Dustoff Huey unloading wounded, 1965. (Bell)**

**1st Cav Dustoff, unusual in that it carries both the Red Cross normally associated with non-combatants, and M-60 machine guns to protect the non-combatants from communists who never hesitated to fire on Dustoffs. (Glenn R. Horton, Jr.)**

**UH-1D landing at a firebase in the Central Highlands of Vietnam in 1965. (Bell)**

**Gunner/Copilot position in the INFANT equipped UH-1M of the 11th Aviation Group. Camera monitor is the large screen on the left of the panel, with the flexible sight for the miniguns in the stowed position at upper left. (U.S. Army)**

**UH-1M INFANT Huey at Fort Monmouth, N.J. during the test program, January of 1971. (U.S. Army)**

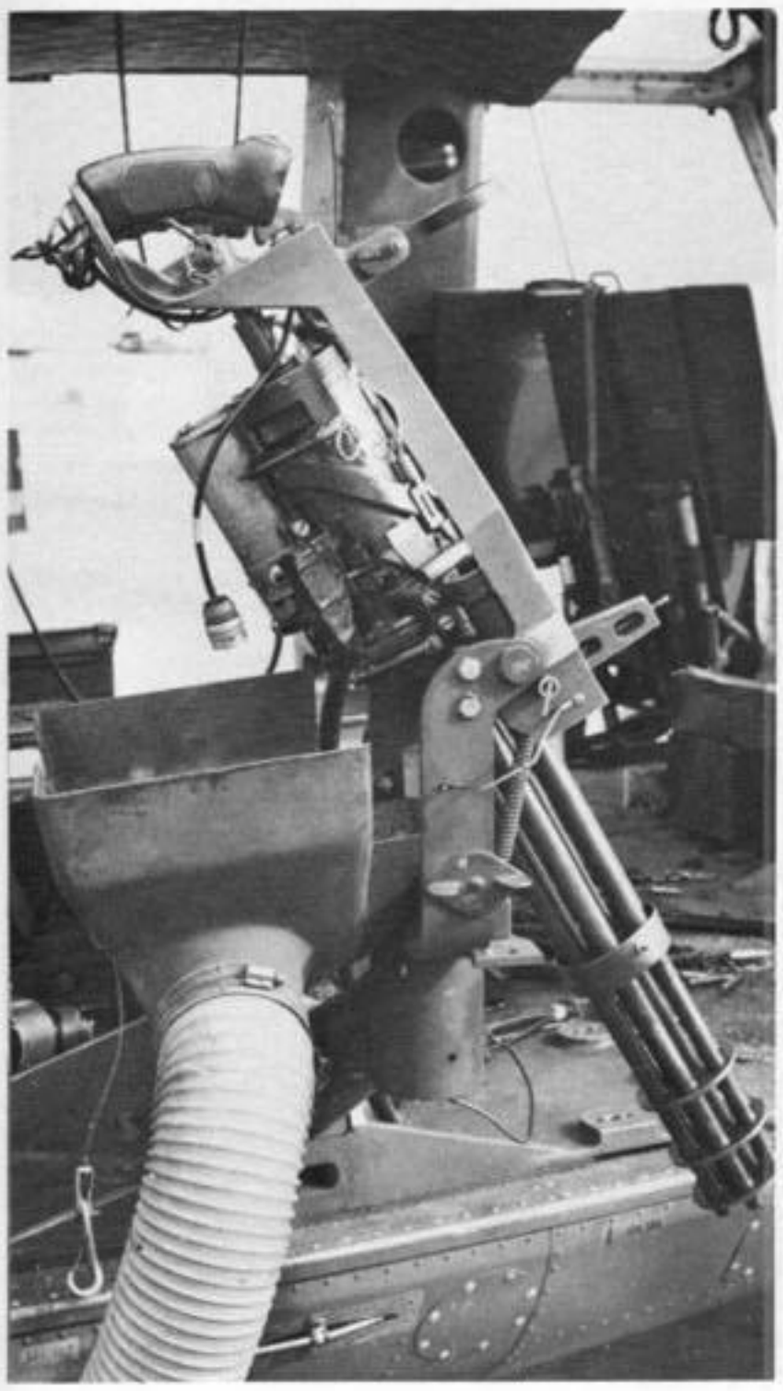
# HUEY INFANT NIGHT FIGHTERS

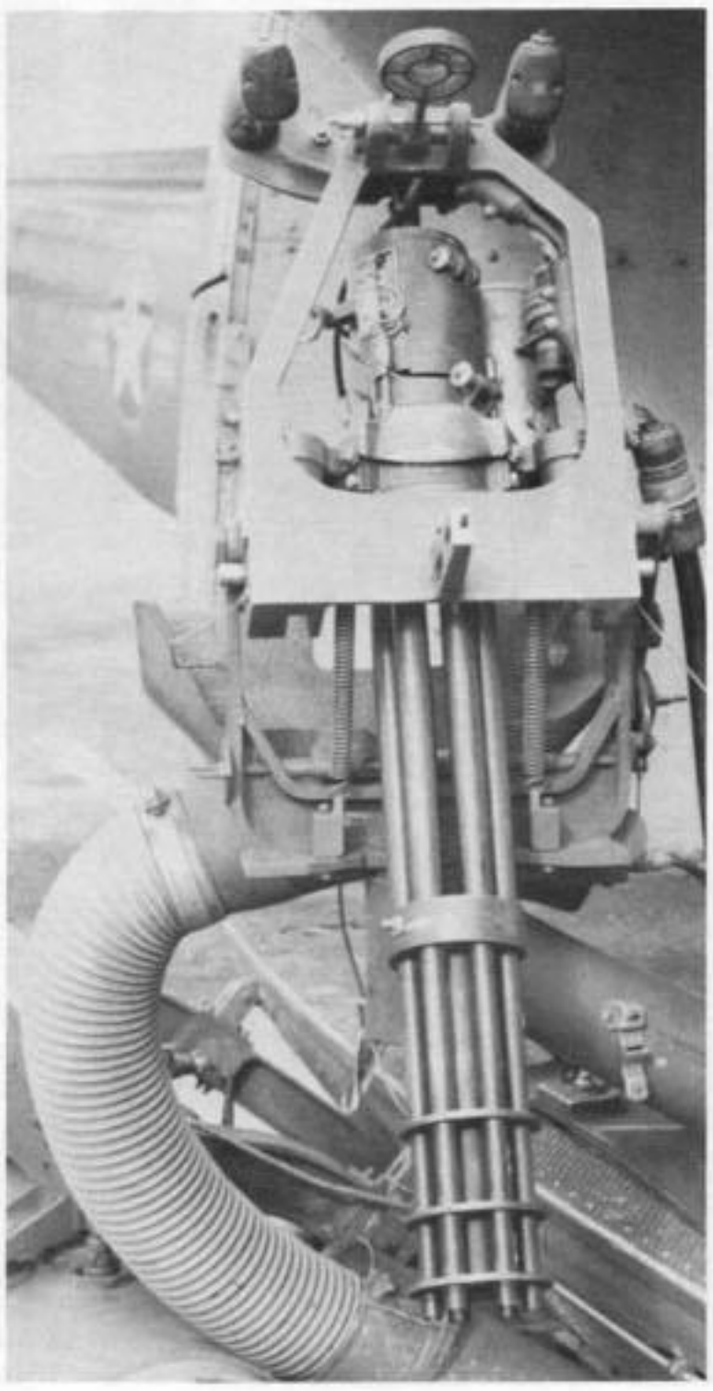
As the United States Army amassed more experience in the Vietnam War, it became increasingly evident that new techniques would have to be developed to counteract the advantages enjoyed by the communists after sunset. In 1967 the Department of the Army initiated development of a helicopter-mounted Low Light Level Television (LLLTV) system. After a competitive evaluation, the contract was awarded to Hughes Aircraft Company, and was named Iroquois Night Fighter and Night Tracker (INFANT). The name was applied to the entire system, the weapons, the helicopter, and the LLLTV. The helicopter chosen was the UH-1C with the M-21 armament system, which included a pair of 7.62mm miniguns and two seven shot rocket pods. Modifications required included strengthening the mounting brackets of the M-5 grenade launcher to make it compatible with the AN/ASQ-132 periscope. The more powerful T53-L-13 engine was installed, and the UH-1C was redesignated UH-1M. The first deployment of the INFANT system to Vietnam was in November of 1969. Three helicopters, six pilots, three crew chiefs, two aircraft armament repairmen, three television equipment repairmen, one special electronics equipment repairman, one signal parts specialist, and two Tech Reps from Hughes arrived at Tan Son Nhut on 6 November 1969. The system was put into action with the 227th Aviation Battalion after transition training of 1st Air Cav aviators. The first operational missions were flown from Lai Khe in late November. A special dim tracer round was necessary for use with the system, since the conventional round was so bright that it permanently damaged the night vision devices. One million rounds of the dim tracer round were manufactured. They were used in a ratio of nine to one with conventional ball ammunition. The M-134 miniguns used in INFANT operations had a special flash suppressor fitted to minimize pilot distraction during firing. The first loss of an INFANT aircraft occured in January of 1970. The cause of the crash was never determined, and the entire crew was killed. During deployment, the INFANT systems were also placed under operational control of the 1st Infantry Division, 25th Infantry Division, and 1st Aviation Brigade in order to obtain maximum diversity in the test conditions. During actual missions, the co-pilot controlled the sensors and the armament from the left seat. The pilot concentrated on flying the airplane on instruments and monitoring the video receiver. The INFANT Hueys were deployed as part of a four ship fire team, with two gunships, a command Huey, and a control Huey. The INFANT ships spotted targets and marked them for the rest of the team. The evaluation lasted three months.

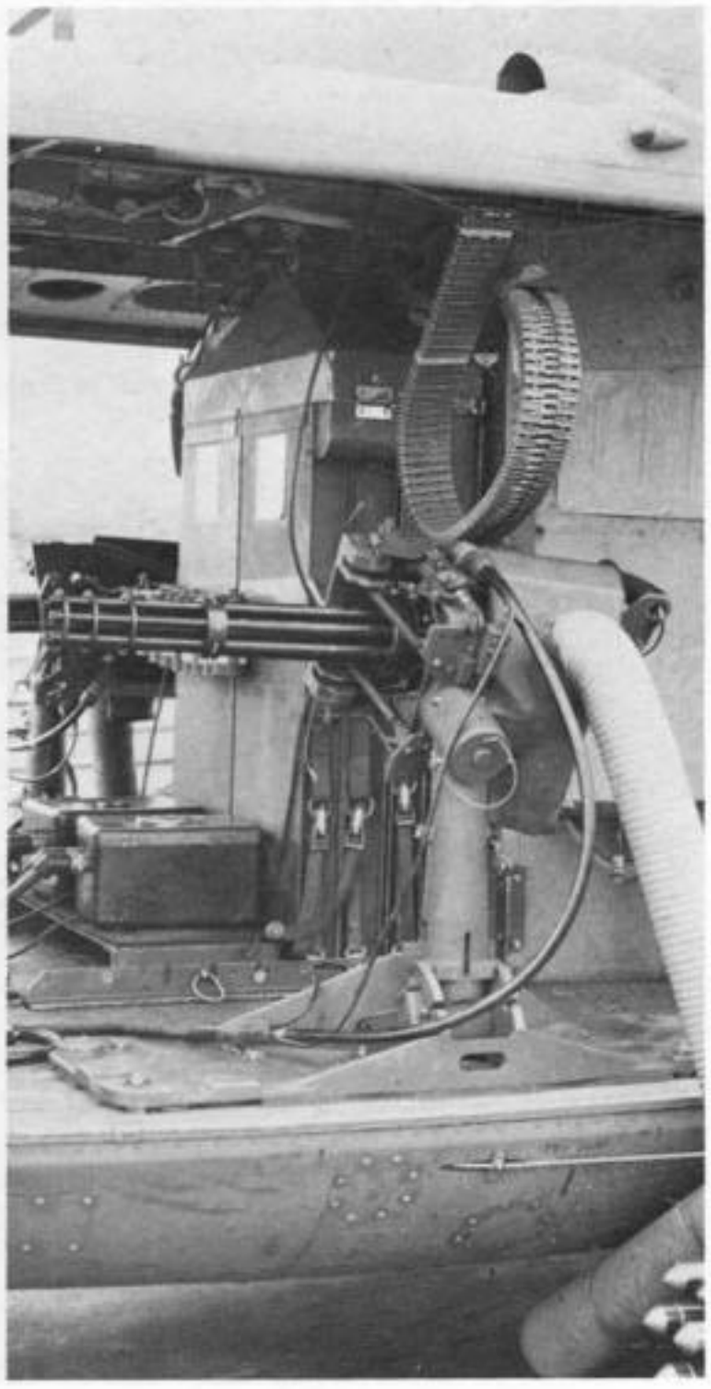
**"Nighthawk" Huey of A Company, 25th Aviation Battalion, 25th Infantry Division with searchlight and starlight scope.**

"Batman" UH-1C at Tan Son Nhut, September of 1966. (Terry M. Love)

(Upper Right and Below) VNAF UH-1H with twin M-21 7.62MM minigun and 7 tube 2.75 inch rocket pods. Each of the miniguns was capable of 6,000 rounds per minute cyclic rate of fire, giving this slick escort fearsome firepower. (Wayne Mutza)

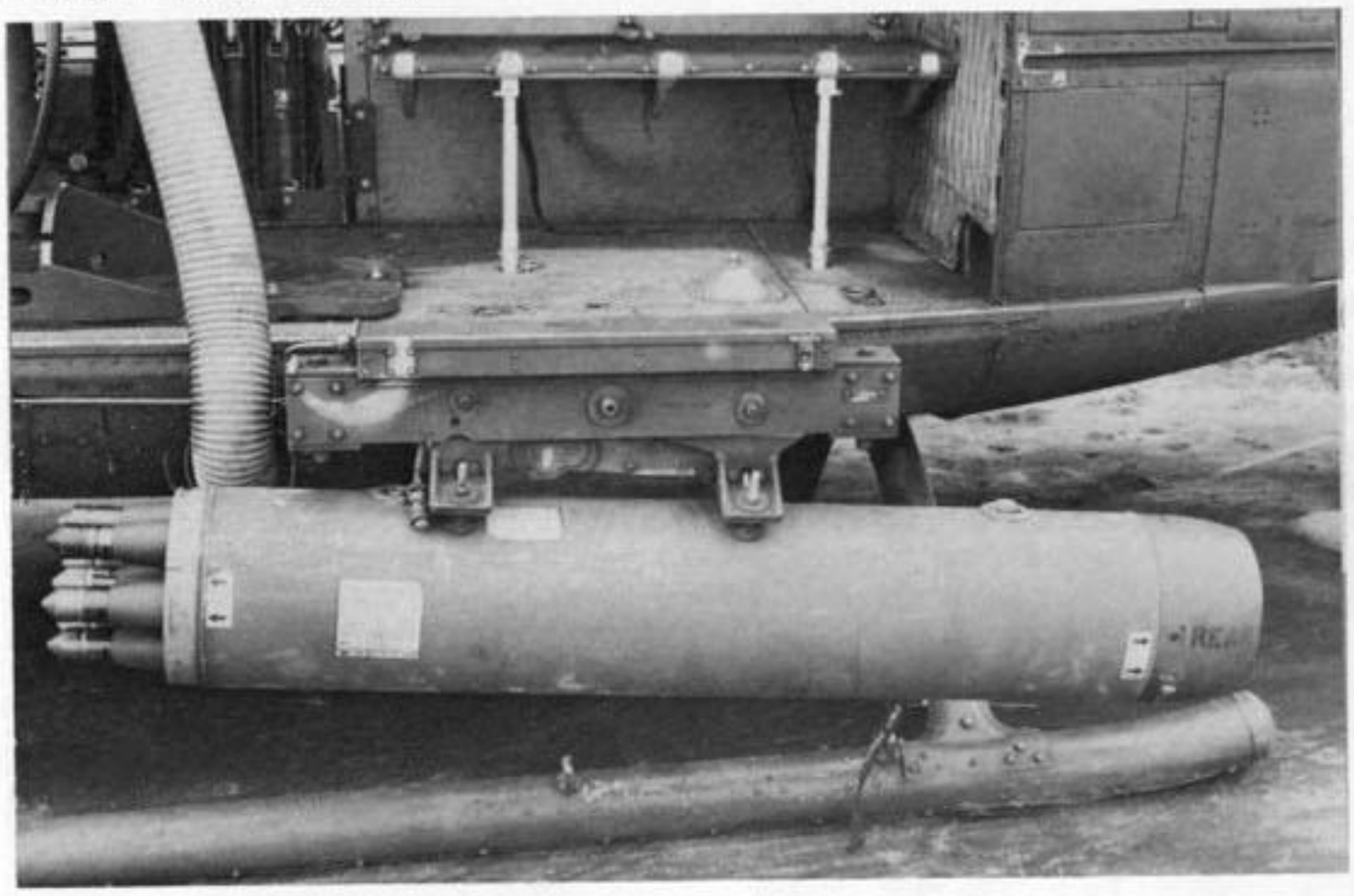






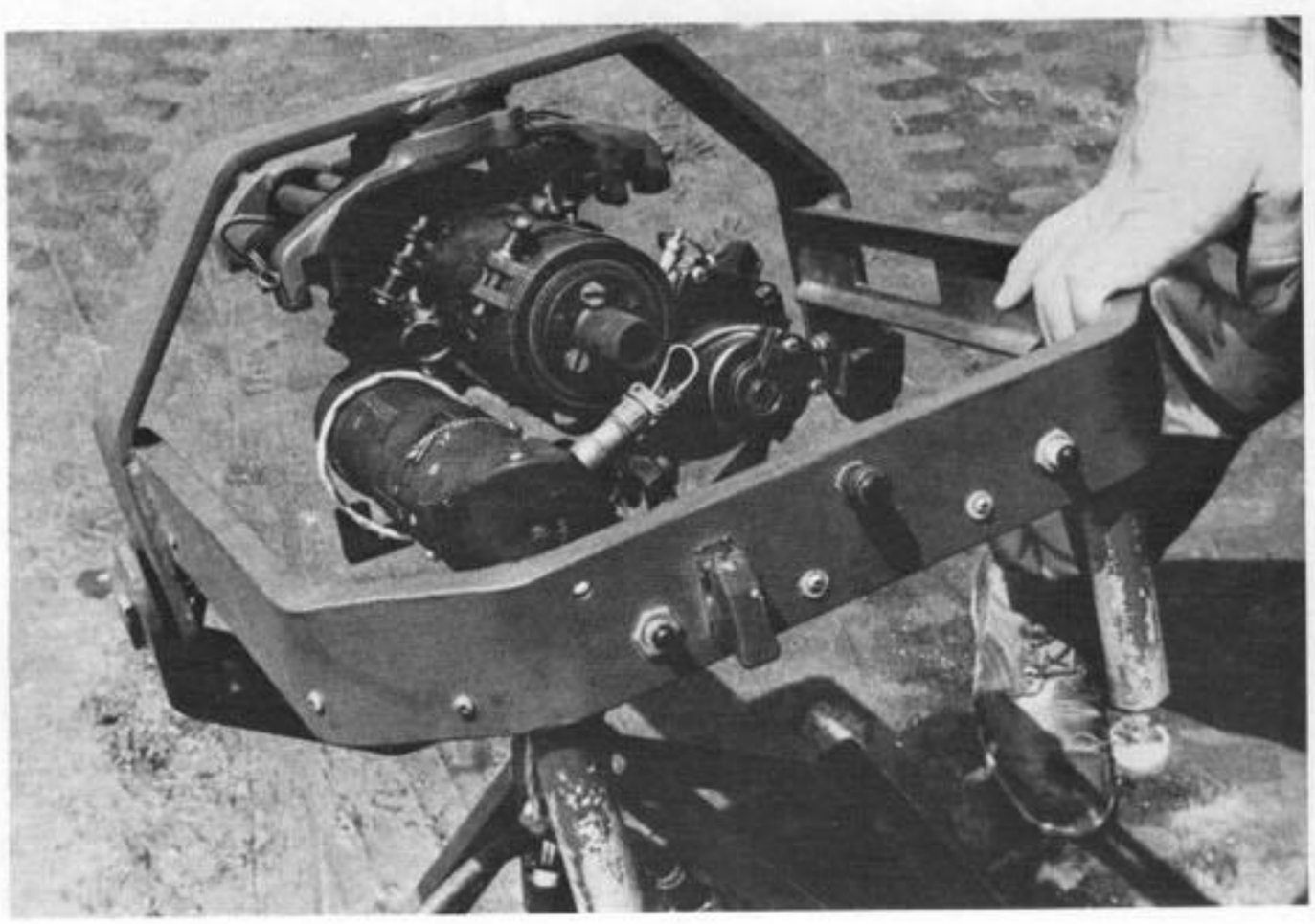

"Peacemaker" was the chase ship of 3/4 Cav, which retrieved shot-down aircrew. It was armed with .50 caliber machine gun, twin M-60s, "free 60s", MK-24 flare dispenser, crash bags, spare Cobra gun pod, litter, extra ammo, and a Medic. Cu Chi, RVN. (Wayne Mutza)

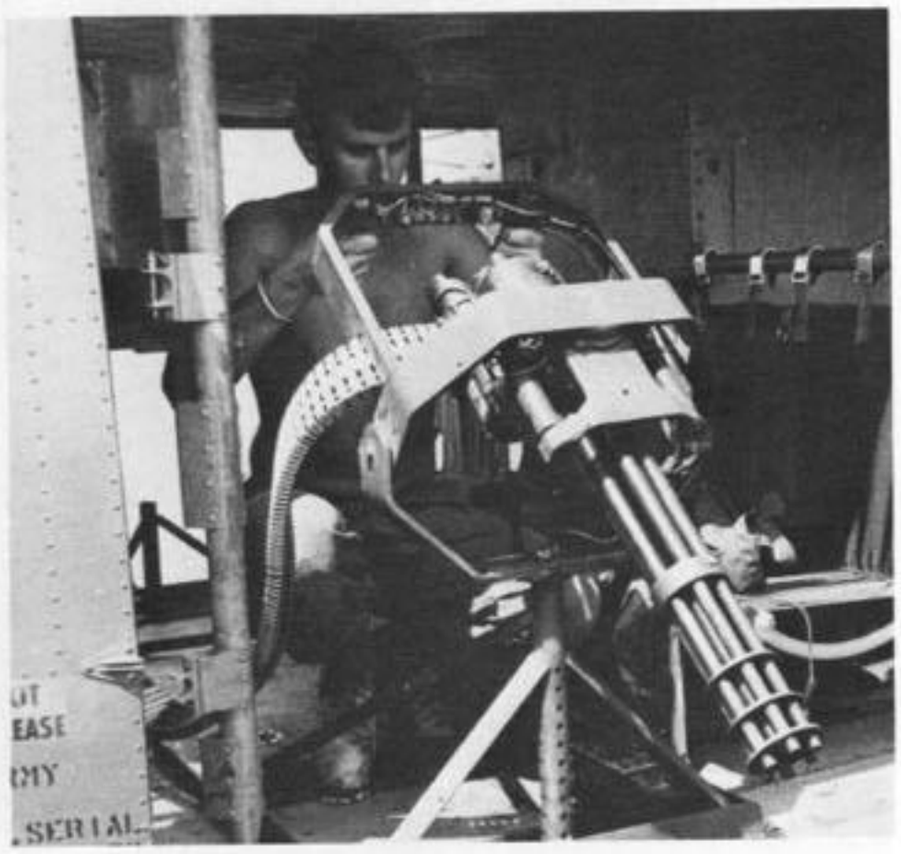
SP-4 John W. Saatkamp of B Company, 101st Aviation Battalion, 101st Airborne Division, Camp Eagle, 1971. In typical crew chief attire for CA, including body armor. C Ration cans at feed chutes of M-60s prevented jamming of guns. (via John Saatkamp)



7 tube 2.75 inch rocket pod. (Wayne Mutza)

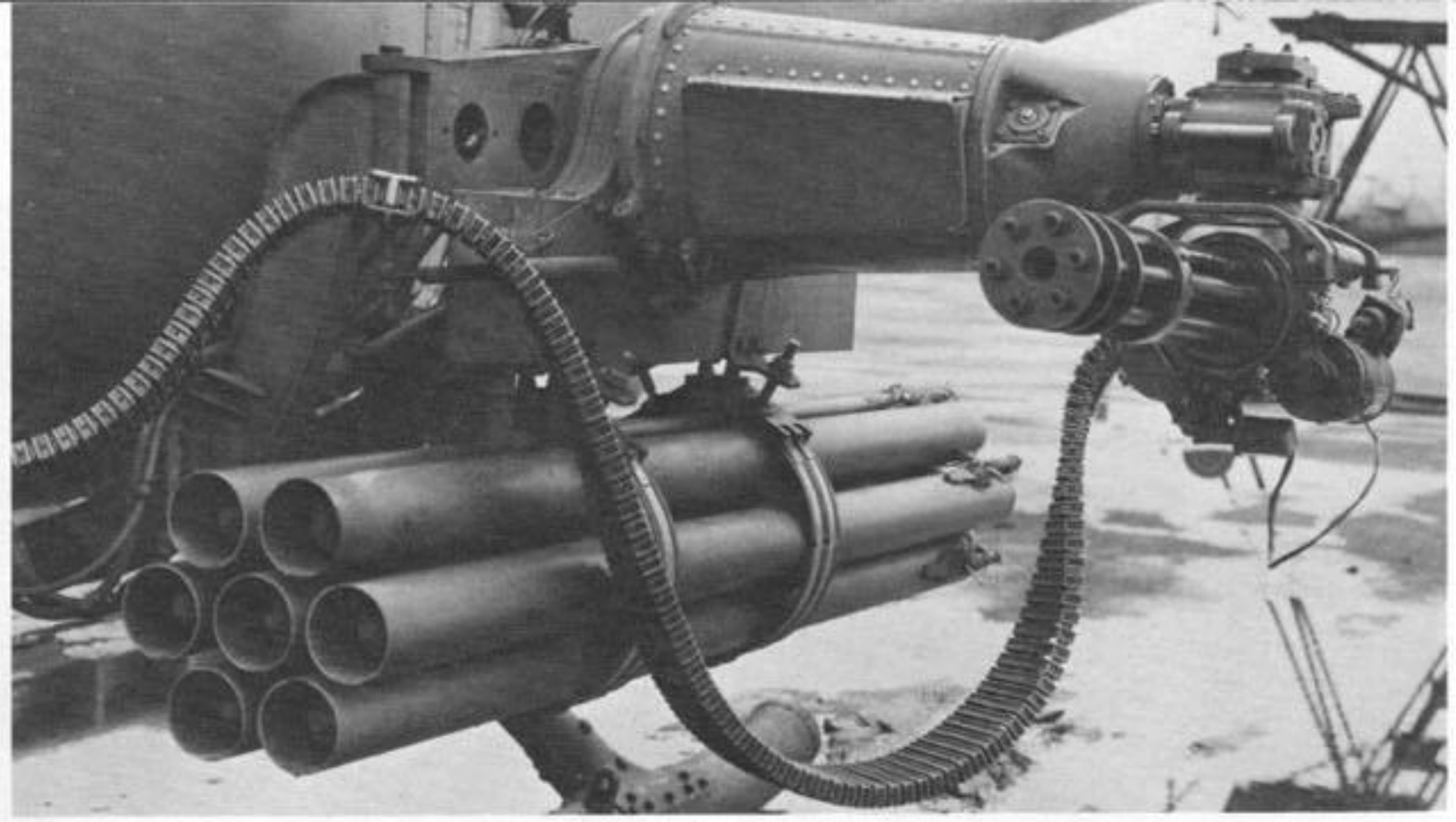
Twin M-60s with field-mounted searchlight, and modified C-Ration can feed chutes. (John W. Saatkamp)





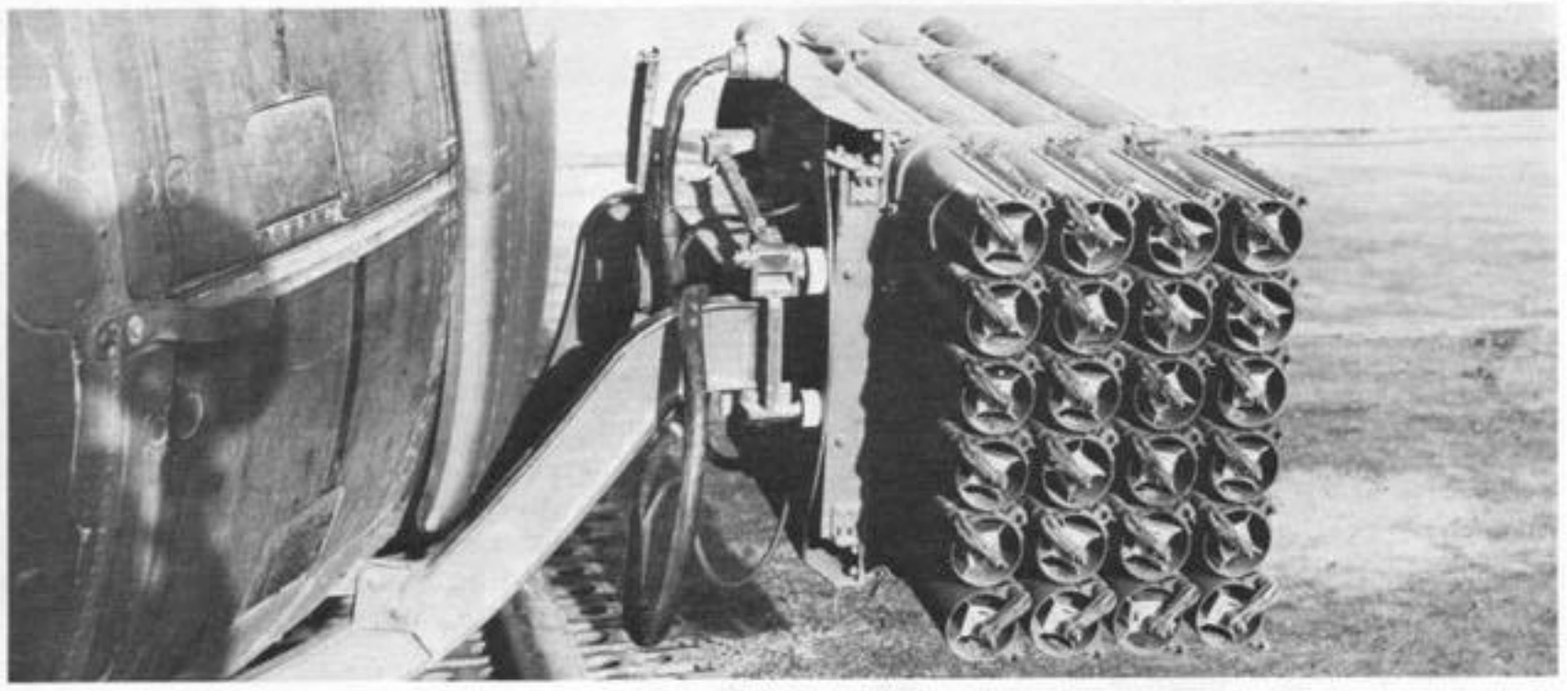
A manufactured-in-the-field mini-gun mount of the 25th Infantry Division.

Stock M-60 mount, including feed chute and ejection control bag. (Wallace Van Winkle)

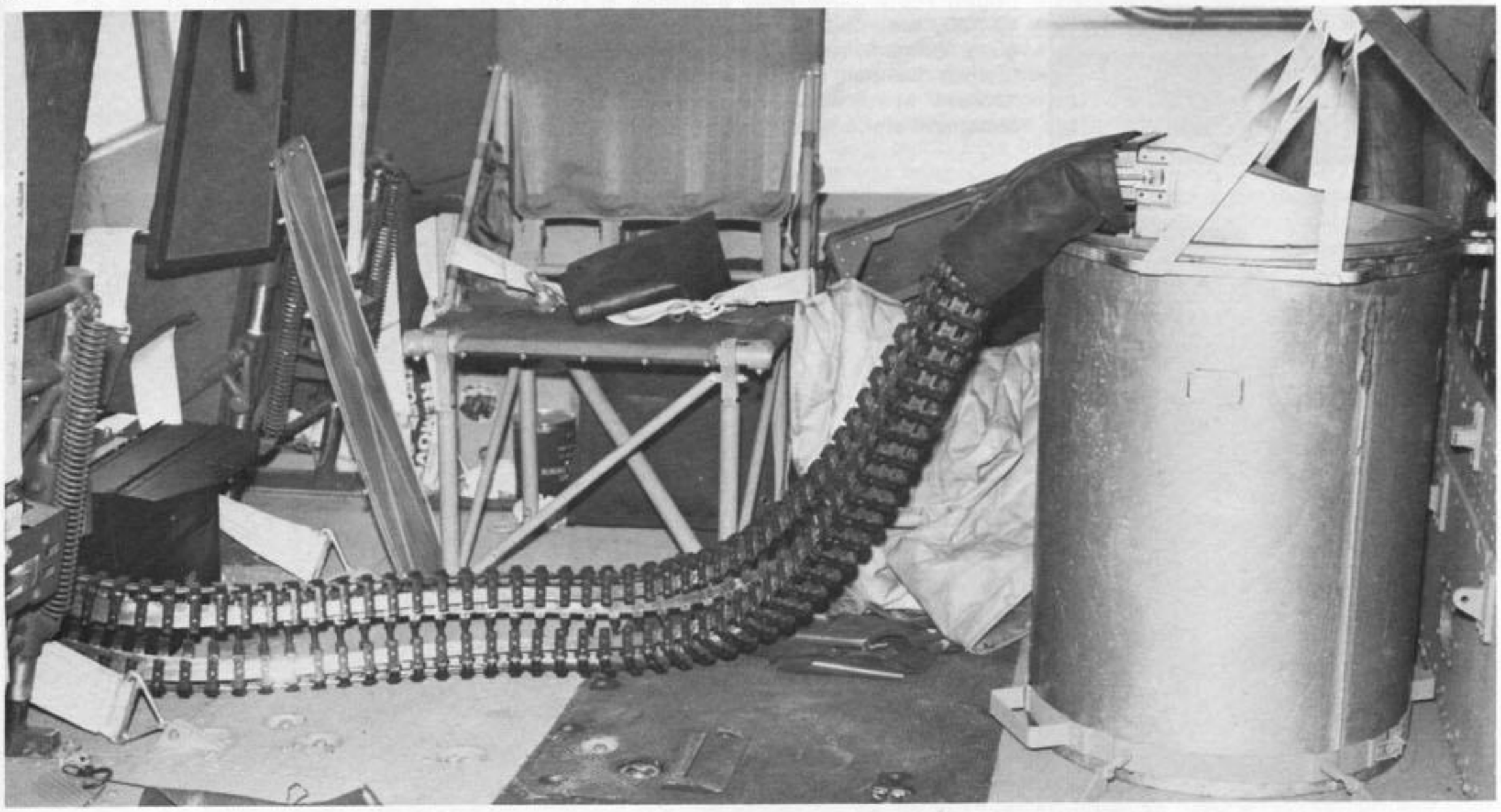


XM-21 weapons system. (U.S. Army via Mutza)

Door gunner of the 1st Aviation Brigade with "free" 60. (Wayne Mutza)



XM-3 system of 2.75 inch rockets mounted on a UH-1B of the 120th AHC, at Tan Son Nhut AB, March, 1966. (U.S. Army via Mutza)



40MM Grenade cannister in the cabin of the UH-1C, with feed chutes leading forward between the pilots seats. (Bell)

(Above Left) Smoke generators mounted on a UH-1B, Vietnam, 1970. (Bell)
(Above Right) UH-1B of the 2nd Battalion, 20th Aerial Artillery, 1st Cavalry Division, lifts off on a fire mission, Bong Son, RVN, July, 1967. It is equipped with MAD (Mortar Air Delivery) system, which used 81MM mortar shells like bombs. It was originally conceived by the CO of the 25th Infantry Divisions organic aviation unit. (U.S. Army via Mutza)
(Left) The Co-Pilot controlled the XM-6E machine gun armament sighting and firing controls from the left seat in the UH-1B/C/M (Bell)

(Right) The original Huey gunships, the HU-1A of UTTCO, mounted Browning .30 caliber machine guns. Vietnam, 1963. (Stars & Stripes via Bell)
(Below) Gunner of the 48th AHC gun platoon "Jokers" at Tuy Hoa, RVN, 1966 limbers up the M-6 armament sighting and firing system. (U.S. Army)

**TOW missile-equipped UH-1B Hueys devastated North Vietnamese tanks in the Spring 1972, invasion of South Vietnam. TOW was initially conceived and developed as an infantry weapon to replace the 106MM recoilless rifle, and the SS-11 missile. It is tube-launched, optically-tracked, wire-guided (TOW), and has a high explosive shaped charge warhead. It proved more than adequate to knock out Russian armor. (U.S. Army via Mutza)**

Wayne Mutza arrived in Vietnam in June of 1971. His first glimpse of Vietnam was the huge and bustling airfield and port facility at Cam Ranh Bay. From there he was transported to the big Army processing center at Long Binh, east of Saigon. Mutza didn't have time to get used to Long Binh; the Army quickly assigned him to the 240th Assault Helicopter Company, 12th Aviation Group at Camp Bear Cat, about 10 miles south of Long Binh. Mutza described the area as "ripe" during his tour, which included the fierce fighting during the Spring of 1972 invasion of South Vietnam by the North Vietnamese Army. His recollections of that tour, spent as a crew chief on "Huey slicks" and "Loaches", are rich with the operational details so often glossed over, or forgotten in other narratives.

"The 240th had the enviable reputation of being involved in just about anything — and everything — that went on in the III Corps area of South Vietnam. The III Corps area was largely flatlands, though heavily forested with Nippa Palms. It was bordered on the east by the South China Sea, and on the west by Cambodia. Not that we were limited by those borders! We sometimes operated in the "Market Time" area. (Operation Market Time was the name given the U.S. Navy campaign to deny the Communists the seaborne invasion route of South Vietnam) We also went into Cambodia, and operated extensively in the IV Corps area, which extended all the way to the southern tip of South Vietnam. That was the interesting thing about working with an aircrew at that time, there was very little within a four hundred mile range of your base that you didn't see at one time or another.

Other units at Camp Bear Cat at that time included a section from the Royal Thai Air Force, the 75th Rangers, the 1st of the 9th Cav, flying Loaches and Cobras, and a platoon of "Blues" (infantry) attached for quick reaction strikes that required a ground presence. There was also a heavy lift outfit from the 362nd Heavy Lift Company, flying CH-47 Chinooks. Their call sign was "Pipesmoke". The 240th was made up of the standard two lift platoons, each with 7 to 10 UH-1H "slicks", and one gunship platoon, flying UH-1C or M aircraft. The lift platoons were White or Blue flights and their call sign was "Greyhound". The gun platoon's call sign was "Mad Dog".

On my first day in the unit, I got a taste of the particular brand of humor common to some of the combat units. It was customary for wounded troops to bare their scars to the rest of the company, at the first roll call after their return from hospital. Try to imagine the impression this made on a brand new troop, (or as they were known in the vernacular "FNG" — which shouldn't take too much imagination to interpret) as I stood there taking it all in. I mean, here were all these hardened combat vets, and the first thing that happens is that the company commander calls this other young troop up to the front of the company, announces that he has just returned from the hospital, after having earned a Purple Heart on a combat assault mission. AND HIS SCAR WAS ON HIS POSTERIOR! You know, if you think about it, that is the place you are most likely to get it in a helicopter. In fact, most guys had two flak jackets...one to wear, and one to sit on. I got one of my Purple Hearts when a round came through the belly of the aircraft. Fortunately, it was not my derriere that stopped the bullet...it was my foot.

Most of the aircrews in Vietnam were considered by the military and by media people alike, to be elite units. I'm not sure what prompted this, except that I suppose you had to be a little nuts to sit up there taking the kind of fire we took, with little or no protection. We, of course, considered ourselves to be elite troops, and we had a lot of pride in our unit. As I mentioned previously, our gun platoon was called "Mad Dog". They were called that with good reason! They were slightly mad...even crazier than the crew members of the lift platoons. Becoming a member of the Mad Dogs was a step and a half above belonging to one of the slick platoons. It was highly unusual for a crewmember to be assigned to the Mad Dogs on his first tour. Most of the members of the gun platoon were on their second, third, or even fourth tour! Nobody in Vietnam had anything on the Mad Dogs. In my opinion, they were the sharpest gun platoon in Vietnam. I know this will be debated by members of the Sidewinders, Gunslingers, or a couple of other pretty sharp outfits I can think of — but it was damn comforting to know that you were being covered by the Mad Dogs when you were on the ground, in a hot LZ. It was not uncommon for them to put rockets within 20 yards from your position. I don't think many other units would have attempted that! I'm sure that they saved our lives and the lives of the people we put on the ground many times over.

The permanent crew of each airplane consisted of the pilot, or Aircraft Commander, and the crew chief. The co-pilot, or "peter pilot" as we called them, were rotated from aircraft to aircraft as needed until they had amassed the experience necessary to be upgraded to Aircraft Commander. The gunners were also rotated from aircraft to aircraft. I don't think it is any secret that we were always short of gunners. In fact, it was not uncommon to take cooks or clerks along as gunners if they were proficient with the M-60 machine gun. Crew Chiefs were selected from the ranks of gunners, and were responsible for all maintenance of their aircraft, short of major items such as the 100 hour inspection. The gunners and crew chiefs of the Mad Dog platoon had the added responsibility of being familiar with all of the various weapons systems carried on their gunships. One of their hairier duties was to clear "hung" rockets, and it wasn't all that unusual to roll in on a rocket run and have a rocket hang up in the tube. The gunner or crew chief would then have to lean out and kick it free....not an easy thing to do when you were diving on a target, and maybe taking fire yourself!

As far as weaponry was concerned, we had all the standard items and systems on the gunships, and of course, lots of oddball personal weapons. We had MP-40s, M-14s, Carbines, AK-47s (you had to be careful where you fired the 47, since it had very distinctive sound, and any friendlies that were close by were more often than not liable to start shooting in the direction of that sound). SKS Carbines, CAR 15s, and 45s. We tried to keep the personal weapons as common as possible among crews, so that if shot down, we could pass ammo back and forth. Once the novelty of carrying some goofy

weapons wore off, we always went back to the standard items, preferably M-16s. We were never without smoke grenades on the aircraft. We carried White, Green, Yellow, Red, and Purple. These were used for position or target markers, and were the subject of some interesting cat and mouse games. By the time I got to Vietnam, the enemy must have had plenty of captured radios, and if you broadcast the color of smoke you were going to pop, you would likely have two or three others just like it thrown to confuse the issue. We took to coding our color selection with phrases like "goofy grape", for instance, for Purple. We carried a lot of other types of grenades too, from the old fashion pineapple frags to CS and CN gas grenades. We carried spare barrels for the M-60 machine guns too — with good reason.

On my first combat mission, we started taking some fire on my side of the aircraft. The peter pilot went into a steep left bank, and said; "We've got bad guys down there, open up!" Whereupon, I promptly forgot everything I had learned at gunnery school at Fort Rucker. I recall pulling the trigger and holding it until I ran out of ammo, just blazing way in one long burst. The adrenalin was pumping so hard, I couldn't even tell you what happened! All of a sudden, the gun was empty, and the barrel was Purple. I was dumb enough to grab it, and even with a glove on, really burned my hand badly.

One of our favorite home-made weapons was developed to take care of bunkers or spider holes, which is where most of the fire we took came from. We would take a Ritz cracker can, pack it with C-4 explosive, and since C-4 must be detonated by a combination of heat and pressure, we would insert a grenade in the center of this. Then we would tape all kinds of junk around the outside of this bomb.....nails, glass, shrapnel....whatever was handy, usually winding up with a 20 pound bomb. If you could get it on target, it did a hell of a job! There were a lot of people who were not at all happy that we carried these things, but once they took some fire, or some rounds hit their aircraft, they changed their opinions! The spirit of attack was not limited to the gunship crews either. More than once, when we had expended all of our ammo, but had a definitely identified target, the pilots would call back to us, asking what we had left that could be dumped on the target — and that included empty ammo crates, cans of hydraulic fluid, fired-out machine gun barrels — anything that could hurt the enemy. They would get us into position and we would dump it on them. There were several pilots who liked to play gunship by having us aim our M-60s forward, then diving on a target and telling us, via the intercom, when to fire. Needless to say, they took a hell of a ribbing from the gunship platoon!

Armor on the aircraft was limited to personal armor, which we called "chicken plates". This was a body armor made from kevlar that covered you from shoulder to shoulder and the base of your neck to the bottom of your waist. It was your choice whether to wear it or sit on it, though there were times when the aircraft commander insisted that we wear our chicken plates. When that happened, we knew we were in for a hot time! And if they were wearing theirs, then we really worried! The pilots seats were armored, and both had sliding armor panels next to the doors.

I guess it is pretty evident from the photographic evidence, that the Huey carried just about every kind of armament that could be dreamed up; if it would lift the weight, we loaded it on the aircraft. I have seen twin 50 calibers, 20mm cannon, and just about every type of M-60 set up you could imagine. I even saw 55 gallon drums of napalm loaded on slicks, then dumped on potential landing zones! Of course, the number one weapon as far as the gunners and crew chiefs were concerned was the M-60 machine gun. On the slicks the M-60s were mounted on pintle posts outside the doors. The mounts had built-in traverse limits, so that you wouldn't shoot your rotor blades in the heat of combat. They also created problems in feeding the ammunition. Since they were out in the breeze, and any forward speed you had tended to push the ammo belt flat against the gun, inhibiting the feed mechanism. We got around this by installing C Ration cans just under the feed slot. They snapped into place like they were made for the job, and solved most of the problems. The gunships did not, for the most part, have pintle-mounted machine guns. Their gunners liked to have what we called a "free sixty". It was just what the name implied. A stripped-down version of the basic infantry weapon. It gave them more latitude, and since they were more likely to be caught on the ground, or be in direct, face-to-face fire fights, they preferred the wide range of traverse it gave them. They had fewer feed problems too, and since they were the most experienced people in the company, they were less likely to shoot through rotor blades, skids, or tails in a fight. I had one bad experience with the M-60, and that involved a jammed round. Somehow, a round jammed in the feed chamber and the following round hit the primer. The resulting explosion took the top of the gun off, and I got a face full of shrapnel.

In spite of the fact that we were involved in grim business, (or maybe because of it, since you had to laugh sometimes to keep from crying) there was a lot of kidding around, and the FNGs took the brunt of most of the practical joking. The co-pilots came in for most of this, and some of the more memorable stunts included having the door gunner on that side get out of the aircraft — while in flight, of course — and edge up to the co-pilots door.

**Mac, Ski, Lenny, Fuhrman, Lumpy, Joe, Lifer, John, and Chickenman were crew chiefs and gunners of White Flight, 240th AHC, Camp Bear Cat, 1971. Wayne Mutza is fourth from right.**

**Hank Gruszka, gunner, took an AK-47 round in his helmet, which removed the shield and cover. Picture was taken before he had seen the damage himself. He wasn't smiling after he was made aware of his close call. (Wayne Mutza)**

**UH-1M "Mad Dog" gunship at Camp Bear Cat. Marking on tail boom has a Green diamond center and belongs to the 240th. (Wayne Mutza)**

**"Kennel Keeper", a UH-1H of the 240th AHC "Greyhounds" at Camp Bear Cat, June, 1968. Gunner and Crew Chief are waiting for infantry to board prior to a Combat Assault mission. (U.S. Army via Mutza)**

Standing on the skid, he would then start banging and yelling on the co-pilots door. That really did a job on a guy's mind! Another favorite trick was to unhook a gunners intercom line and his "Monkey Harness" (so-called because it resembled the harness arrangement used by organ grinders to control their monkeys..though in this case it simply kept the gunner attached to the airplane through all the manuevers that might be required in combat). Then, with both of them trailing out of the open door, and with the gunner hiding behind the co-pilots seat, start hollering that he had fallen out of the airplane. As if the poor guy didn't have enough to worry about with the Cong shooting at him, we made sure he kept his adrenal flow high!

I was shot down three times during my tour. The first time, we had been circling a downed C-123, which was laying in the middle of a rice paddy. All of a sudden, we started taking fire. It sounded like someone throwing rocks against the fuselage, but the chip detector light showed us that it was lot more lethal than rocks! We lost the tail rotor, and fortunately, were not high enough to really get a spin going before we got to the ground. We called mayday right away, asking for gunships to provide cover. That was one thing about flying over South Vietnam...you only had to holler, and you had all kinds of support. We were able to fix it right there and fly it out. The second time we weren't so lucky. We got blasted real hard, and crashed into a rice paddy. No one was seriously hurt, but it took a while to get us out, and we sweated while holding the enemy off long enough to get picked up. The third time was in a Loach, and though we made it back to base, the aircraft was so badly damaged that it had to be written off, so we considered it a shootdown.

Even though we flew missions every day, and almost every days mission would be different, it was the Combat Assault (CA) mission that everyone wanted to fly. The commanding officers knew this, and they tried to switch assignments so that everyone got a shot at flying CAs.

We also worked extensively with HAL-3, the Navy Huey gunship squadron. They were based at Nha Be, and when we worked with them, we would usually get down there early in the morning so that we could in get a joint operational briefing. HAL-3 called themselves "The Seawolves", and they flew B model gunships they had gotten from the Army. They worked in the Delta, on Operation Market Time, and were damn good at it! They worked with the SEALs, the Navy version of the Army's Special Forces, and were involved in a lot of clandestine operations. If I had to use one word to describe the SEALs, it would be CRAZY — in capital letters! When they went out on missions, you could believe they were high risk. Some of their activities included kidnapping of high level Viet Cong Cadres and infiltration of known enemy locations. We supplied a lot of their lift capability, and one of my hairier experiences was on one of these missions. We had inserted a SEAL team in an area called the Plain of Reeds, then returned to Ben Luc to await their call for extraction (usually, the crew that inserted a team remained in the area to extract them, either in the air, or at a nearby staging base). When the call came for extraction, it was for IMMEDIATE extraction. They were taking heavy fire, and needed to get out right now! It was dark, but we had a pretty good idea of where they were, and we could tell when we were getting close, because we started taking fire. I'll tell you, taking tracer fire at night is one unforgettable experience. Those babies look like orange basketballs coming up at you! Our chances of surviving this fusilade didn't look too good, and we hadn't even located the SEALs yet. The pilot and co-pilot were debating whether or not they should turn on some lights to try to find the SEALs, and thereby make us an even more visible target. Finally, as we were sweeping over the reeds, they hit the spotlight, and someone must have been watching out for us, because we found the SEALs almost immediately. They had a small perimeter set up, and as we came to a hover over them, they made a break for the aircraft. I saw one of them get hit and go down and knew he would never make it to the chopper on his own. I warned the pilot that I was going to jump out and get him, but unfortunately, I had jumped too soon, my intercom became disconnected, and he never heard me. We (the wounded guy and I) came very close to getting left on the ground. The gunner spotted me just in time to warn the pilot not to pull pitch, and I got the wounded guy back to the airplane and we got the hell out of there, with all hands on board blazing away as we climbed out! The sad thing is, one of the SEALs never got back to the LZ, and was never heard from again.

One of the duties we didn't particularly relish was flying the C&C (Command and Control) ship. It was usually pretty boring, since you were far above the action. Some of the organic aviation companies assigned to divisional units in Vietnam had their own C&C ship, rigged with all kinds of special communications equipment. We didn't, and so the C&C duties were rotated from ship to ship. Normally, the C&C aircraft would carry our CO, the Vietnamese Regional Commander, and his American Advisor, plus one or two Operations Officers. The only good thing about flying this mission was that it gave you a great overall view of the mission. And it was just as well that we didn't get involved in the action, since with all those people on board who were hooked into the intercom system, it was tough to have the instant crew communications we depended upon to provide the pilot with the information he needed to manuever in a combat situation. This kind of communication was necessary in some of the "routine" missions too. For instance, on resupply missions where we had to land in a hastily prepared landing zone, it was not at all uncommon for us to take the tops off of trees with our rotor blades. When it was a real tight squeeze, the pilot needed the other crew members' input on clearance of trees, etc. It was also important when inserting troops into a jungle area via rappelling. You wanted to make sure the aircraft was held in absolutely the right spot. And, whenever there were operations with multiple aircraft, the pilot depended on you to clear his turns. He would announce "turning left" (or right) over the intercom, and he expected the gunner or crew chief to come back with "clear left" immediately.

One of the missions normally flown by the Loach, but also often assigned to a Huey slick was what we called "Recon by Fire". Now, we weren't doing

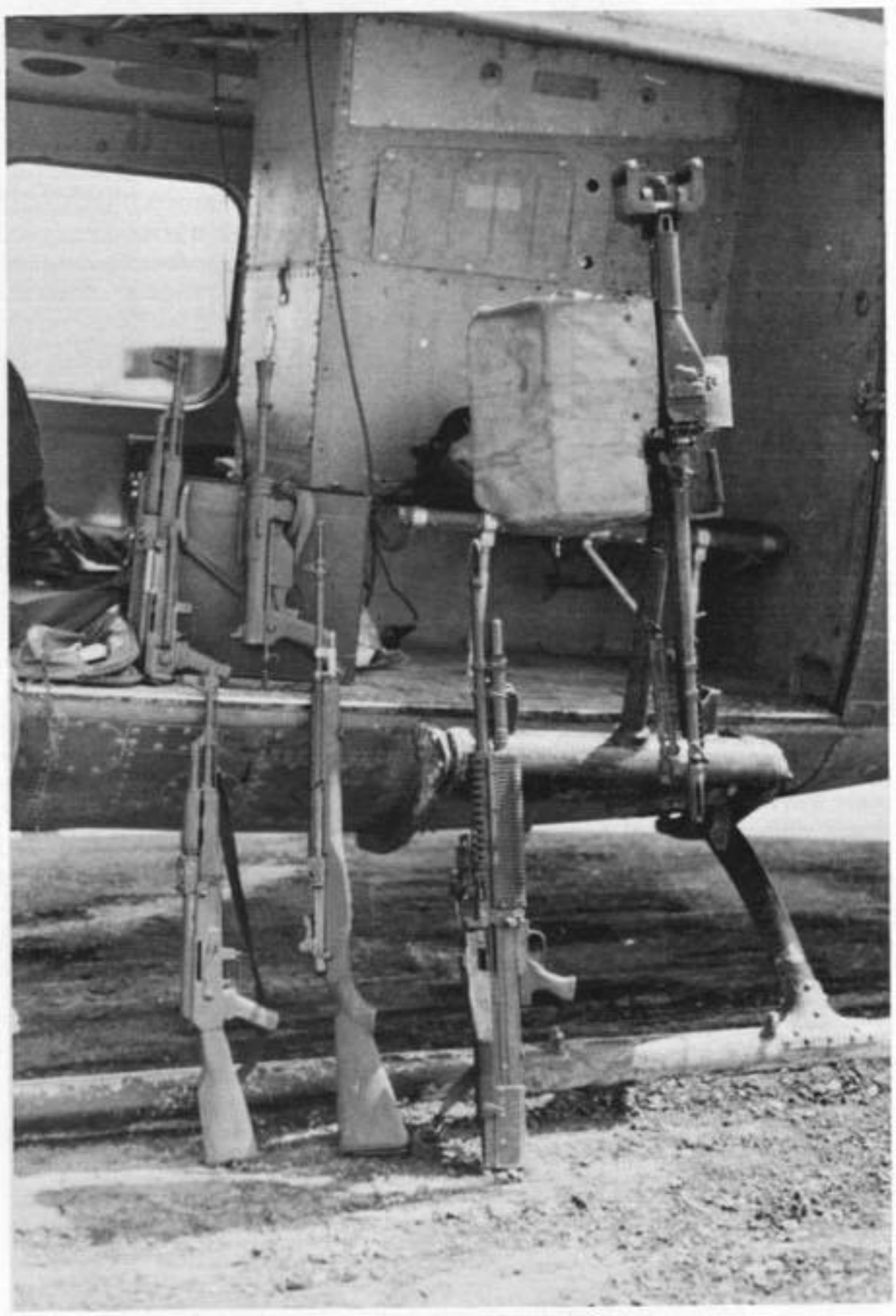

**"Mad Dogs" shack at Camp Bear Cat. The gun platoon of the 240th AHC worked hard at their job of killing VC, and put up this communist skull in front of their headquarters to advise friend and foe alike of their prowess. (Wayne Mutza)**

the firing — at least, not to begin with. We would fly low, while a gun team flew high. The gunner and crew chief had Red smoke grenades in their hand, with the pins pulled. If you started taking fire, you simply threw the grenade out, and the gunships would roll in on the target. These missions increased your "pucker factor" considerably.

By the time I got to Vietnam, most of the combat assaults were being carried out by ARVN (Army of the Republic of Vietnam). There were still some American units in country, so we had the opportunity to compare them with ARVN, and ARVN came off a distant last among all the units we worked with, which also included Australian, Thai, and various special units. Most of these units seemed well motivated, and were already jumping off the skids when you were still 10 feet in the air, landing on the LZ. But ARVN, on the other hand, was for the most part very poorly motivated. They didn't seem to care much one way or the other, except when you were going into a hot area. Then they cared very much — about not getting off the helicopter! In one case, one of our slicks was on the LZ — and it was a hot LZ...and the ARVNs wouldn't get off the ship. In turned into an ugly confrontation, with the crew and the ARVNs facing each other across the barrells of their individual weapons. The ARVNs finally relented and got off, since we were their tickets out of there after the operation, but that experience created even less enthusiasm about flying them in the future. Another thing about them that bugged us was that everytime they flew with us, we got ripped off. They would steal our grenades, tool boxes, and even slice the pockets of our flight suits with razor blades to get at our personal stuff. They didn't seem to care about anything but themselves — they certainly didn't care about their mission, or about their country. Ironically, the best South Vietnamese units we worked with were the PRUs (Provincial Recon Units). Ironic, because they were convicted criminals who were given the choice of fighting or serving time. They were the bad, bad, bad guys of the South Vietnamese society. You would think that they would be the ones that would only perform the bare minimum, but in fact, they were great fighting soldiers. In one incident, we were coming in over an enemy bunker line in a trail formation. As the first ship in formation began his flare for landing, they opened up on us. One of the PRUs in the lead ship jumped the remaining 15 feet to the ground, did a couple of rolls, and charged the bunker. He cleaned it out himself, accounting for 7 or 8 enemy soldiers single-handed! That was really something to see.

Sometimes it became a pretty grisly business. I can recall one time that we were called in on a "dustoff" (medical evacuation). Three ARVNs had been wounded by a VC booby trap. One of them had a fatal head wound, a large piece of shrapnel had taken a big piece of his skull out, and as we flew them to the hospital, the rotor wash blasting in the door was flinging blood and gore everywhere. I tried to cover him with a poncho liner, but that was just as impossible in the wind, so we ended up enduring. The inside of the aircraft was a real bloody mess though, and as we headed back to base, we were diverted to Xuan Loc to pick up a MACV advisor. As it turned out, he was accompanied by a reporter. Though they both looked a little green at the sight of their transportation. I give them credit, they realized what we had been involved in, and they hopped on board without a word.

Even with all the hairy combat missions I flew, I think the most frightening mission I was involved in was an evacuation of a friendly village, which was on the verge of being overrun by the communists. The 240th and the 1st of the 9th were both scrambled into one of the heaviest monsoon downpours, I had seen, to go out and pick up these villagers. We were given coordinates of a landing zone outside the village, and told to get there as soon as possible. The trouble was, so were 40 other helicopters! You can't imagine what it is like trying to land in a field at night, in a tropical downpour, with 40 other aircraft intent on doing the same thing. Naturally, there were no lights on the ground, so we were really on our own trying to land. It was like being in the



**A lineup of some of the weapons carried by aircrew of the 240th AHC. They included AK-47s, M-3 Grease Gun with flash suppressor, M-14 rifle, and M-60A (free 60) and M-60D machine guns. Not shown is the standard which almost all aircrews carried, the M-16. Note that the soundproofing material has been removed from the interior of this UH-1H, a not uncommon practice, since it only got in the way when trying to remove access panels, and with the doors off, there wasn't much point in trying to suppress noise levels anyway. (Wayne Mutza)**

**UH-1H of A Company, 25th Aviation Battalion, 25th Infantry Division on a "bombing" mission, employing MAD (Mortar Air Delivery) 23 January, 1969. (U.S. Army via Mutza)**

middle of a UFO invasion, with Red, Green, and White lights flashing everywhere, throwing all kinds of crazy reflections off the windscreen. There was no ground coordinaton either, and we were just damn lucky we didn't have a mid-air! The most concentrated action I saw was during the build-up for the Spring, 1972 invasion. Our scouts were picking up reliable signs of a major offensive by late in 1971. These signs included large stockpiles of heavy weapons and ammunition which had come down the Ho Chi Minh Trail in advance of the invasion troops themselves. Most of this activity was around Tay Ninh, and the adjoining border region. 16 hour days were not uncommon during that period. Those were hours in the air, not including refuel and rearm time. During one of these missions, in which we were the second C&C, or chase ship, there were two Cobras and one Slick shot down. Since we were a chase ship, and since the shoot-downs occured over the span of a couple of hours, we didn't make any of the pickups, but the fact that three aircraft were shot down in the same area in that time span confirmed the concentration of enemy activity. I believe they were all shot down by 51 caliber, or possibly 37mm anti-aircraft. Not your run-of-the-mill VC weapons...these were NVA regulars.

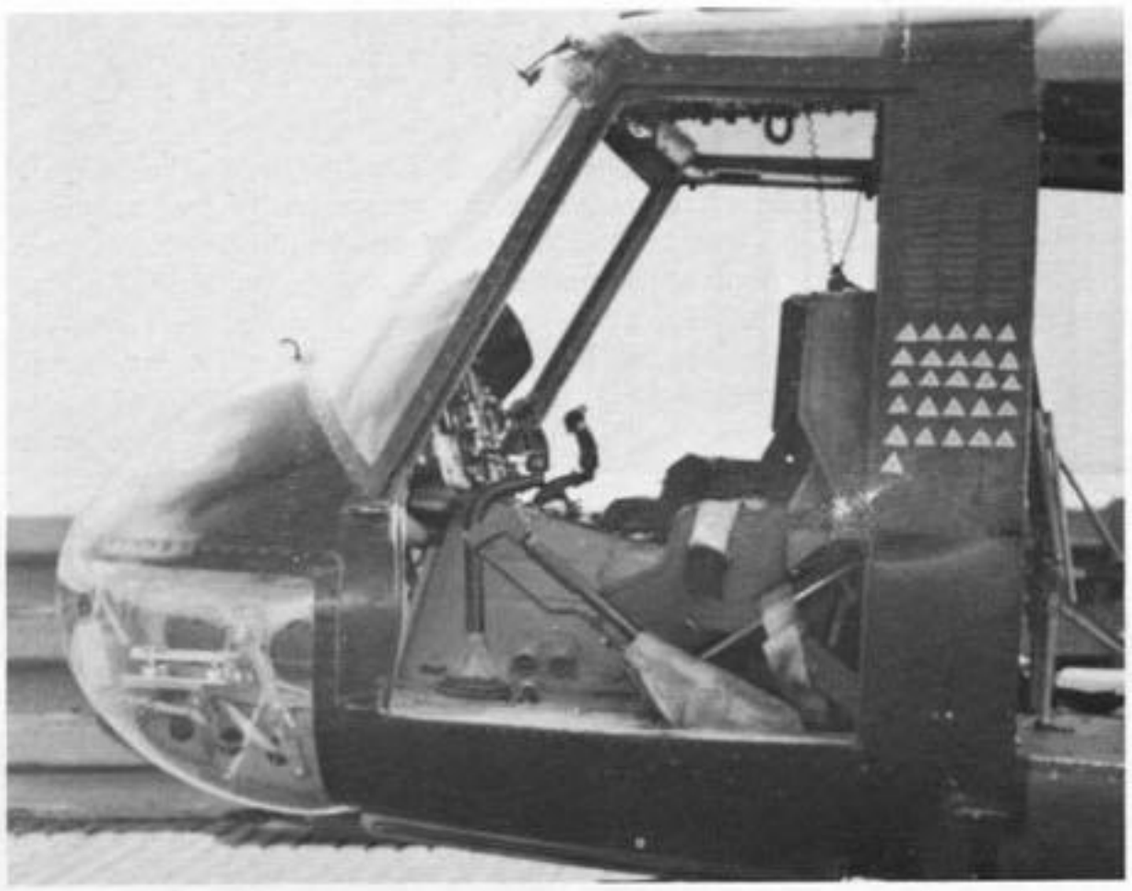
We were working with the 5th Special Forces a lot at this time. When we inserted them for a recon mission, it was often by having them rappel through the triple canopy jungle to the ground. The pickups were often made by use of what was called a "McGuire Seat". Basically, this consisted of a line connected to a parachute harness. The line was about 150 feet long, and was tied to the helicopter, then lowered through the jungle. When the trooper was attached, we could pull pitch and be gone, while all the time providing suppressive fire from a good vantage point. There was at least one unfortunate incident, in which a troop was lost when his McGuire Seat detached from the line in flight.

The helicopter crews were some of the Americans most hated and feared by the communists. They called us "Muttering Death", and we tried to live up to the name. It was not unusual for a chopper crew to have "Sat Cong", which means "Kill Communist", on the bottom of their aircraft. There was a lot of other by-play on this theme, ranging from shark mouths on all kinds of aircraft, to individual units printing up cards proclaiming their dedication to killing communists. We were told by our security forces that the local VC had compiled dossiers on many of the aircrew, and that they were offering bounties for anyone who could kill us. The primary measure of success in the Vietnam War was numbers of enemy killed, and this led to some fairly grim practices, such as collection of ears, or VC skulls on poles outside of compounds. And there were the ever-present photographs of kills. One of the customs was to buzz the compound when returning from a successful mission. If kills had been made, Red smoke was popped and trailed behind the helicopter. There was a lot of brutality on both sides. For our part, we knew that the Vietnamese considered dismemberment one of the worst things that could happen to you in death because your spirit would wander aimlessly forever looking for the missing parts. We tried to exploit their fears to give ourselves a psychological edge. But whatever we did, they responded with much worse, and the thing that bothered us most was that the media people who condemned us for doing this never seemed to see the bodies of our own people that the VC had mutilated."

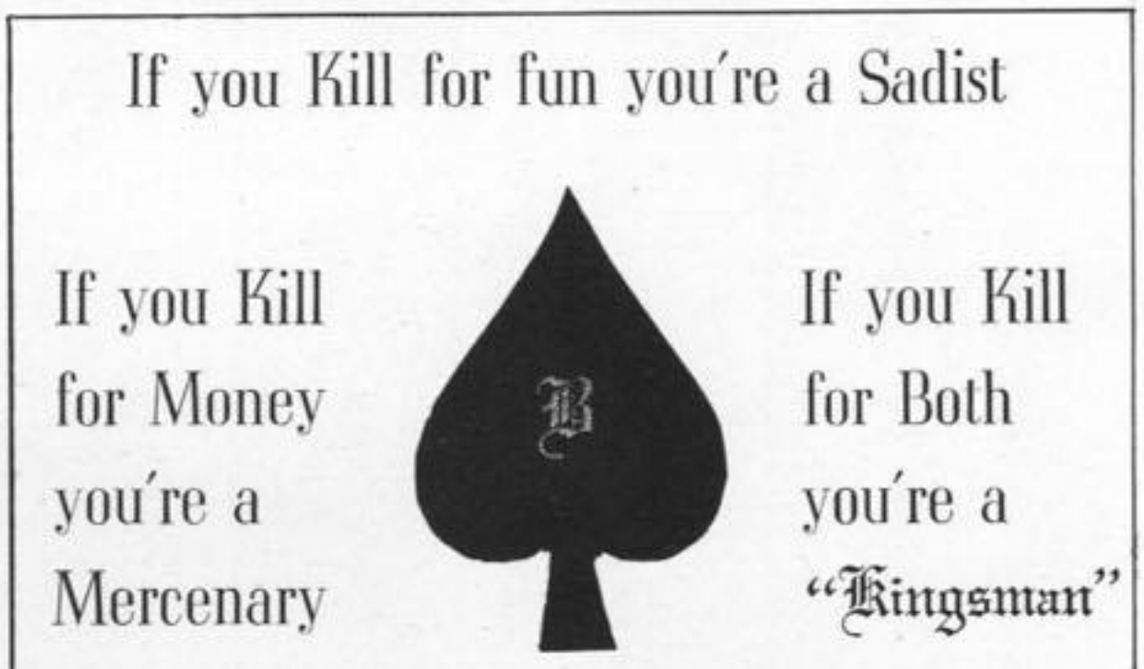

The "Cowboys" emblem of the 335th AHC consisted of a Light Blue shield, Brown horse, Darker Blue helmet and rider, with Silver and Brown rifle. Lettering was Black. (Wayne Mutza)


UH-1D of the 56th Transportation Company, 765th Transportation Battalion, 34th General Support Group, was used as a retrieval ship and was credited with 172 Huey retrievals and 47 Loach retrievals. September of 1967. (Terry M. Love)


"Rebels" emblem of the 222nd Combat Aviation Battalion was Red, White, Blue, and (what else?) Grey. (Lex McAulay)



"Razorbacks" (120th AHC) Nighthawk carried its scoreboard on the door post, indicating destroyed sampans in Red, and destroyed VC in Yellow. Nha Be, 1971. (Wayne Mutza)




(Above and Below) Calling card of "The Kingsmen".

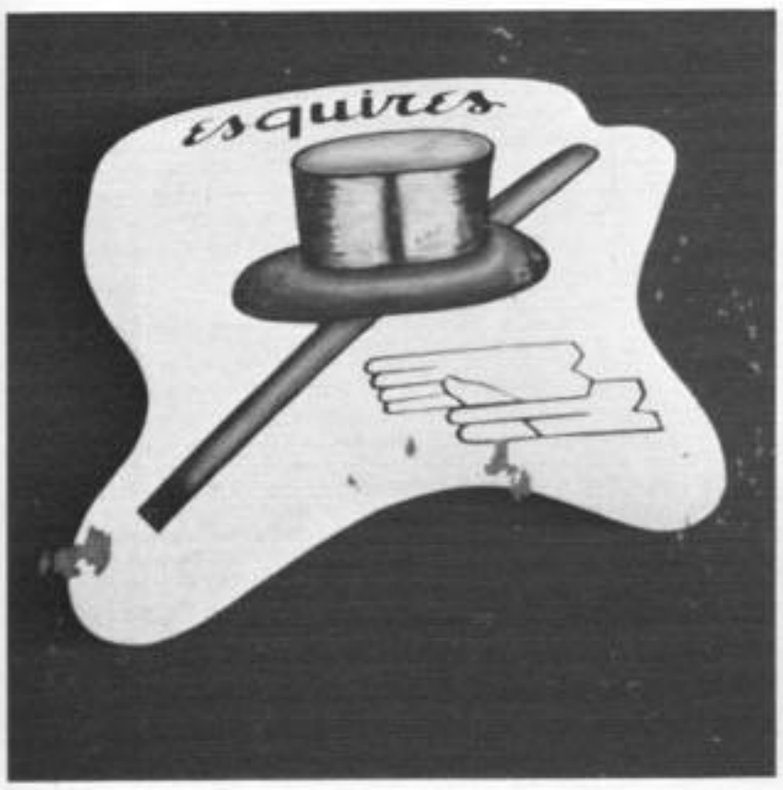
**INTRODUCING "The Kingsmen"**
**B Company 101st AHB**

SPECIALTIES:
Combat Assaults (Day & Night)
F.O.B. (We do the old "Quang-Tri-Trick")
Emergency Ammo Resupply
Flareship, N.O.D., Fire Fly, Psyops
Emergency Medivacs
People Sniffer, Defoliation, Insecticide
VC. Extermination

SIDE LINES:
Worlds Greatest Pilot
War Monger
International Playboy
Social Lion
Ladies Man
Renowned Booze Hound
Whoo - yaa !

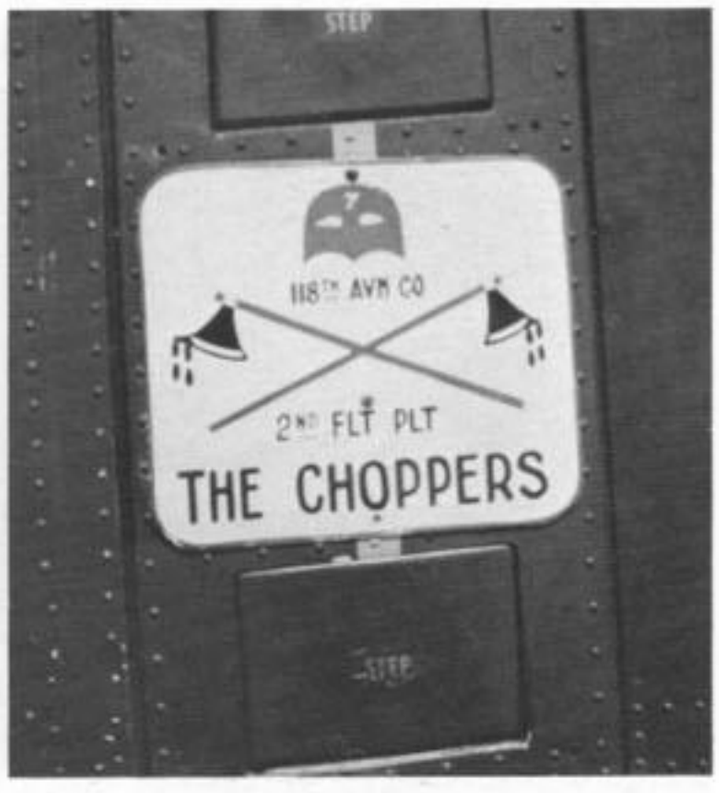
PROVIDING: Death and Destruction 24-Hrs. a Day. If you Care Enough To Send The Very Best, Send *Kingsmen*

Nose markings on Hueys at Bien Hoa, 1966, units unknown. (Lex McAulay)




Marking of an unknown unit at Bien Hoa, 1966. (Lex McAulay)


Tail marking on Huey of the 173rd Airborne Brigade at Binh Tuy, December, 1965. (Lex McAulay)




Marking on door post of UH-1B gunship, January, 1966. (Lex McAulay)


"The Yellow Rose of Texas" was a UH-1D of the Soc Trang Tigers, 121st AHC, preparing to load troops for a March, 1966 CA. (Lex McAulay)


The 82nd Airborne Division operated a detachment of 4 Hueys in Vietnam, 1966. (Lex McAulay)

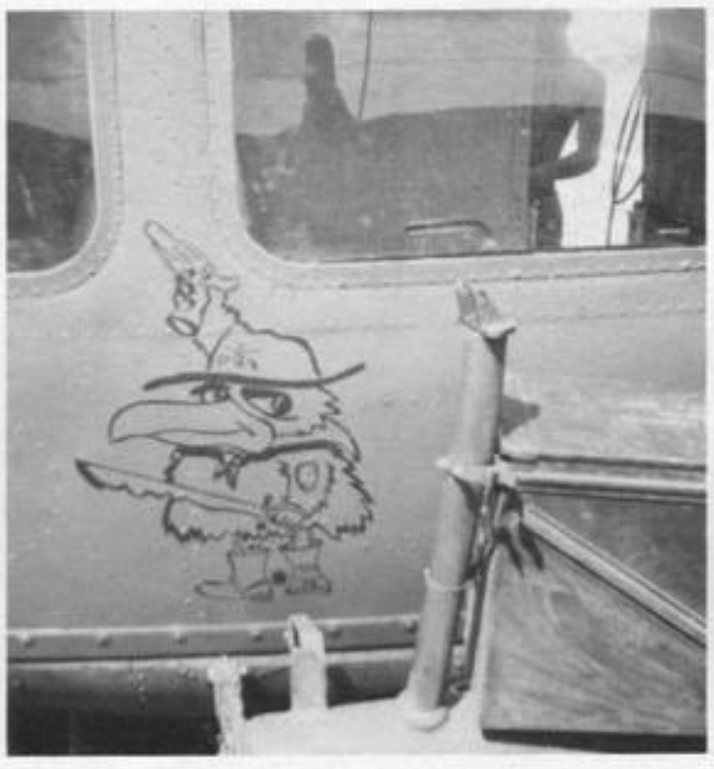
The rattlesnake on the door of this Huey indicates that it may have belonged to the 71st AHC "Rattlers". The snake is Black with a Yellow outline, fang and eye are White and the tongue is Red. January, 1966. (Lex McAulay)

"Black Jack", a UH-1H of the 2nd Signal Group. The 2nd was responsible for communications in III and IV Corps Tactical Zones and operated from Long Binh in 1967. (Terry M. Love)


UH-1H of the 11th Armored Cavalry Regiment "Blackhorse". C&C ship. (Note extra antennae on skids.) (Glenn R. Horton, Jr.)


"MBG III" retrieval ship kept its scoreboard of Loach pickups. Note anti-theft door locks! (Glenn R. Horton, Jr.)


"Patches", a UH-1H of the 45th Helicopter Ambulance Company. (Glenn R. Horton, Jr.)



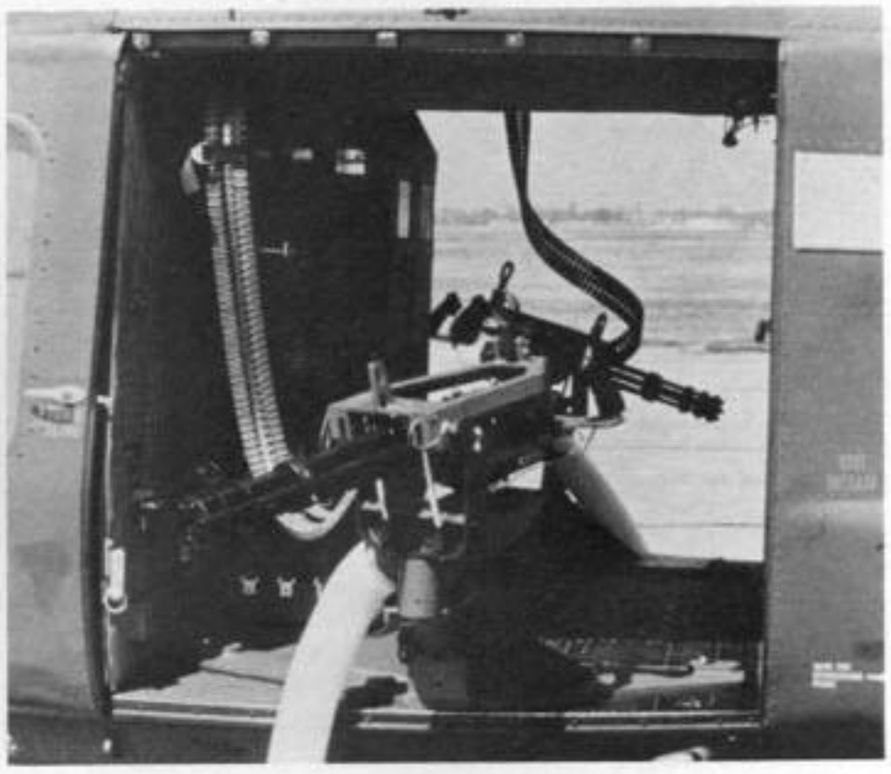
Door marking, UH-1H, unit unknown. (Glenn R. Horton, Jr.)

Nose marking of "Mad Dog 6" UH-1M gunship. (Wayne Mutza)


The pilot of "Lancelot" hot refuelling, 1969 or 1970. Unit and location unknown. (Glenn R. Horton, Jr. )


Individual marking on Uh-1H seems to indicate that it belongs to the 361st Aviation Company "Pink Panthers", and that the pilot was from Detroit. (Glenn R. Horton, Jr.)


(Above Left) UH-1D of the 129AHC "Bulldogs", which served in Vietnam from October, 1965 to March 1973. (Lex McAulay)
(Above Right) "Bits & Pieces", a UH-1H of an unknown unit.(Glenn R. Horton, Jr.)
(Left) Dave Evans with the UH-1D he flew on as Crew Chief in 1968. It belonged to the 118th AHC "Thunderbirds". (left)
(Right) The same UH-1D as it was marked when it belonged to the 282nd AHC "Black Cats" prior to serving with the 118th. (right)
(Below Left) UH-1P of the 20th SOS, USAF. The "Green Hornets" operated in III Corps area. Standard USAF SEA camouflage, with Dark Green hornet on tail boom. (Wayne Mutza)
(Below Right) "Lucky Tiger" UH-1P gunship of USAF, Vietnam, 12 February 1970, mounted a pair of 7.62MM miniguns. (Bell)



# HUEY MARKINGS

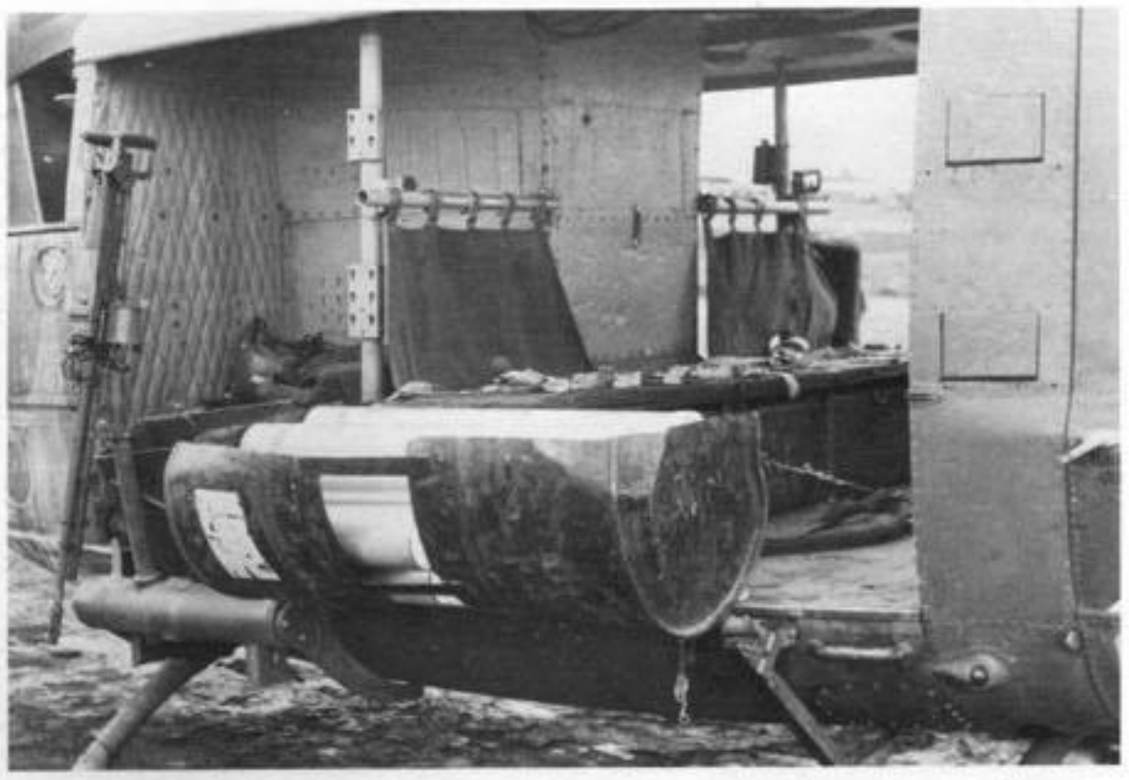
David M. Evans served as a door gunner on "Slicks" of the 118th Assault Helicopter Company, from April, 1968 to mid-January, 1969, earning 29 oak leaf clusters on his Air Medal. His explanations of how their Hueys were marked is instructive.

"When the "Thunderbirds" carried complete markings, which was not often, they consisted of the Battalion insignia, which was a White diamond on the tail boom just forward of the synchronized elevator, repeated on the top surfaces of the elevator. Each of the companies within the battalion had a different color center to this diamond. (The 118ths was Orange) The company marking was on the nose (A White "Thunderbird", with and without lightning bolts. The later ones all had lightning bolts.) In addition, each platoon had it's own markings, which were different color fin flashes. The first lift platoon was Red, the second lift was Blue, and the third (gunship) platoon was Black with a Yellow numeral to designate individual aircraft. It was later changed to a Yellow band with Black numbers, and still later in 1968 back to Black/Yellow. This resulted in call signs of "Red 5" or "Blue 1" for example, in the lift platoons, but always "Bandit 3, etc" for the gunships. Each aircraft carried numbers to indicate this. At full strength we had 30 aircraft, with the lift platoons numbered 1,2,3,4,5,7,8,9,10,11 and the guns numbered 1,2,3,4,5,7,8,9. Number 6 was reserved for the Company Commanders aircraft, whose call sign was "Thunderbird Six"....or sometimes "Rainbow Six". The usual radio call signs were "Thunderbird one-five" or "Thunderbird two-five", which would indicate platoon and aircraft number. To further confuse things, the aircraft could also use the tail, or serial number as a radio call sign, thus, my aircraft was also known as "Thunderbird 736".The aircraft we used to lay smoke screens was named "Polution IV" and carried that name in a semi-circle around the regulation "4" on the Blue tail band. Used only on combat assault missions, it carried a crew of five. (The fifth member was an extra gunner, since the smoke ship performed one of the more hazardous missions.) Upon return from the mission, we would have to wash the residue from the Fog Oil off the tail boom immediately, for it would eat the paint right off if left on overnight."

UH-1B of HAL-3 the U.S. Navy "Seawolves", who operated the Huey in the gunship role, beginning in 1966. Note that this B model has been modified with the larger C vertical tail surface. (U.S. Navy)

The Seawolves flew in OPERATION GAME WARDEN, a subdivision of OPERATION MARKET TIME, the Navy campaign to deny the communists the waterborne invasion routes to South Vietnam. HAL-3 maintained 7 Detachments, with a total force strength of 22 aircraft, based on LSTs at various spots in the Delta. The Seawolves usually operated in pairs, supporting PBRs (Patrol Boats, River). They also provided extensive support to the SEALs, the elite Navy commando unit, which carried out clandestine and daring missions throughout the war. The basic aircraft armament for HAL-3 was the XM-16 system, with quad 7.62MM machine guns and a pair of seven shot 2.75 inch rocket pods. Seawolves got their Hueys from the Army, and initial training was provided by Army Aviators. (U.S. Navy)

UH-1H of the 116th AHC "Hornets" enroute to Fire Base Wire, Northwest of Cu Chi with troopers of 4th of the 9th, 25th Infantry Division, October 1968. (U.S. Army via Mutza)



Two examples of American ingenuity in the Vietnam War are illustrated here. The 55 gallon drum used to hold illumination flares during night missions, and the C Ration can fitted to the M-60 machine gun were G.I. field modifications. (U.S. Army via Mutza)

Typical combat assault mission, screened by smoke laid down to hide the lift ships from VC in the jungle at top. The Slicks are just touching down in the LZ, Trang Bang, RVN, September of 1968. (U.S. Army via Mutza)

"Sky Cobra" UH-1H of the Thai Air Force, landing at Camp Bear Cat. The aircraft formerly belonged to the 240th AHC. (Wayne Mutza)

(Left) Slicks of the 118th AHC break over Lam Son, Headquarters of the 5th ARVN Division. (Dave Evans)

UH-1H of the 358th Aviation Detachment "Volunteers" during a hot refuelling at Camp Holloway, Pleiku in November, 1972. (Andy L. Mutzig)

"Lookout", a UH-1H of the 11th Armored Cavalry Regiment. (Glenn R. Horton, Jr.)

UH-1H loading Republic of Korea (ROK) troops at Phu Cat for a combat assault on a large communist unit a few miles from Phu Cat, 20 April, 1971. (Norman E. Taylor)

"Blue Flight" UH-1H from the 240th AHC over the coast of South Vietnam near Can Tho. Note bare metal fuselage and absence of doors. (Wayne Mutza)

When the North Vietnamese invaded South Vietnam in the spring of 1972, spearheading their assault with conventional armor for the first time in the war, the U.S. Army had only two helicopters capable of firing the TOW missile. TOW had been developed for use with the AH-56 Cheyenne. When the Cheyenne was cancelled in 1969, the two UH-1Bs were put into storage. They were returned to test programs in the summer of 1971, one to West Germany, the other to the Army's Combat Developments Command. Both were pulled from the test programs and sent to Vietnam in late April, 1972, along with six pilots. They recorded 73 hits out of the first 89 missiles fired, destroying at least 26 tanks, including Soviet built T-54s and PT-76s. The TOW proved very accurate and flexible, and tactics were developed which proved that the helicopter fired TOW would be the major anti-armor weapon in future wars. Early in this deployment the camouflage schemes were spotty, later were cleaned up and standardized. Scoreboard was kept on door post, and the T-54 shown above was one of the victims. (Bell via Mutza)

**A hairy rescue mission was carried out by this Huey. The Loach crashed after its pilot was shot in the legs from a VC bunker (upper left) while he hovered in front of it. The Loach gunner pulled the wounded pilot out of the cockpit while still taking fire from the communist bunker. He backed away, emptying his .45 automatic, he then pulled the pilots .45 and kept firing. A Huey from F Troop, 8th Cav was directed to them by the covering Cobras, who laid down suppressive fire, knocking out the bunker. (Neal Thompson)**

If you asked most people who had followed the Vietnam War with more than a casual interest, "When did the United States" active combat involvement end? They would probably say, "In December, 1972, when the last big B-52 raids on Hanoi forced the North Vietnamese to agree to sign the Paris Peace Accords." But for a dozen Army Aviators, the war was far from over on January 15, 1973. The American Army presence in South Vietnam had dwindled to less than 17,000 by the beginning of January, 1973. Most of this strength was in Aviation units. One of these was F Troop, 8th Cavalry, 1st Aviation Brigade, whose primary mission was visual reconnaissance.

The fact that North Vietnam had agreed to a peace treaty did not modify their long range goals in the least. They still had thousands of troops and heavy armament in South Vietnam, and would continue their assault on the South if and when they could get away with it. Pragmatists in the American government understood this, and were attempting to solidify the position of South Vietnam as much as possible. This support included transfer of large amounts of weaponry, and active aid for as long as possible under the terms of the treaty. Visual recon missions were one segment of the active support Americans gave until their departure.

The Communist activity in South Vietnam was widespread and fairly obvious. F Troop had discovered concrete bunkers and evidence of enemy tracked vehicles just north of Lai Khe early in January. They reported this, and continued to monitor the enemy activity. The Communists were apparently content to ignore the helicopters as long as they were not fired upon. Each knew that the other was there, though the Americans had not seen targets that they could engage. One of the best weapons for attacking large concentrations of enemy troops in deep jungle was the B-52. The big bombers were called on to attack this area, and during the night of January 14-15, 1973, they carried out a raid in the area of the former Michelin Rubber Plantation, 30 miles north of Saigon.

The next day a pair of AH-1 Cobras escorted two OH-6 Loaches into the area of these strikes to do a bomb damage assesment (BDA). They were under the operational control of a UH-1H Huey Command and Control ship. WO-1 Robert Preddy was flying the Huey, with Captain Woodson McFarlin, Jr. as Co-Pilot and Air Mission Commander. Their gunners were SP-4 Erickson and SP-4 Major. The Cobras were flown by WO-1 Neal Thompson and Captain Kenneth Pankey, with WO-1 Kenneth Donahue and 1st Lt. Richard Stephenson as their Co-Pilot/Gunners. (The Co-Pilot of the Cobra normally operates the chin turret, with it's 40MM grenade launcher and minigun, while the pilot fires the wing-mounted ordnance.) The Loach pilots were CW-2 Fred Page and WO-1 Daniel Lorimer. The Loach gunners were SP-4 Cortwright and SP-4 Masterson. All were combat veterans in their last month of Vietnam duty. They had been transferred to Saigon in September from the I Corps area of South Vietnam.

The area that had been bombed contained heavy jungle. Not the triple canopy found in the rain forests of the central highlands, but dense, nearly impenetrable foliage nevertheless. As the five helicopters arrived in the area, they could see the long strings of devastation caused by the B-52s. What happened next verified the intelligence that had prompted the B-52 strikes in the

**The International Control Commission (ICCS) used Hueys to police the 1973 "Peace Accords". (Quan Nguyen)**

first place. The wing Cobra, flown by Thompson, began drawing heavy 51 caliber machine gun fire. The gunners lead was perfect, red tracers flashed past, under his seat. A few feet higher, and he would have caught the full burst. Pankey rolled hard left to get into position to cover Thompson, but just as he did, the Loaches started taking heavy small arms fire from close range, and he cut his turn short and rolled in to cover them. Thompson rolled in behind Pankey, and together they cleared the Loaches off to the south. As the two OH-6s completed their withdrawal safely, Pankey asked Thompson if he had the 51 caliber site spotted. Neal replied that he did, and Pankey ordered him to blast it, while he, Pankey, covered him. As Thompson and Donahue rolled in on their run, they immediately began receiving heavy fire from the 51 caliber. Pankey and Stephenson fired their rockets to suppress this site while Thompson broke hard right. As Pankey made his break, the North Vietnamese got the range, hitting him several times, though not critically. The volume of fire was building, with several different colors of tracers criss-crossing the sky as more and more of the enemy tried to shoot the helicopters down. Pankey called; "Let's get em' 26!", and Thompson rolled in again. As he pulled off his run, Thompson heard Pankey call; "Taking fire! ...And it's something Big!" Then, "I'm hit!"...and a few seconds later; "I'm going down."

Pankey had been hit with several 51 caliber rounds, and high explosive rounds from a ZSU-23, a deadly twin 23MM anti-aircraft piece. He felt several of the hits on the left side of the aircraft....not the rattle of small arms...this was a solid, rending "THUMP!" which caused the Cobra to pitch up and left. He knew it was serious, and his fears were confirmed within seconds by a simultaneous failure of the engine and drive train. He entered autorotation, heading for the only relatively clear spot in the area. It had become standard practice for the South Vietnamese to clear the jungle for 200 yards on either side of their main roads. The road that ran east through the Michelin Rubber Plantation was one of these roads, and it had been cleared to prevent ambushes. Unfortunately, it had not been cleared anytime recently.

The only thing worse than getting shot down is getting shot down in the middle of a bunch of people you have been diligently trying to kill within the previous few minutes. Pankey aimed for the road. Thompson continued to cover him, making repeated rocket and turret runs on the enemy positions, trying to force the NVA to keep their heads down. Page, in one of the Loaches, got right on Pankey's tail, calling; "Don't worry, I'm right behind you, and we'll pick you up as soon as you're on the ground." Stephenson, in the front seat of Pankey's Cobra, continued to fire the turret weapons all the way to the ground. As they neared the ground, Pankey saw that the trees they had imagined to be low scrub growth bordering the road were in fact 15 footers. He flared right at the tree-tops and the Cobra settled easily into, then through the thick jungle. His last airborne communication came from Page, who had spotted a road 30 meters in front of the crash site. Page called for Pankey and Stephenson to "Go 30 meters, 12 O'Clock, and I'll pick you up on the road!"

Both Loaches were now buzzing around the crash site, trying to spot the downed aviators. The jungle was so thick that the airplane had literally disappeared. The door gunners of the Loaches had to hold thier fire until the two pilots had been spotted. Thompson had set up an orbit around the area, and had slowed his aircraft to 40 knots while he fired rockets and grenades at the enemy positions. His slow speed, coupled with the fact that he was now between 100 and 200 feet above the jungle, made him a prime target for the enemy, who continued to blaze away at the helicopters.

The Command and Control Huey had remained on station, 1500 feet above the action. Their gunners fired their M-60's continuously. The Huey, in turn was not ignored by the communists, who blasted away at them with 51 caliber, and small arms. They were the first to spot the mortar rounds exploding closer and closer to the downed helicopter. Thompson saw them too, and realized that Pankey and Stephenson were not going to have time to get to the road through the dense undergrowth before the enemy Forward Observer walked his mortar rounds in on their position. He called to Page; "Hurry up and get them out, theyr'e walking in the big stuff!"

Pankey and Stephenson were now pinned down by accurate small arms fire. Without the covering engine noise of his own helicopter, Pankey was acquiring a new appreciation for the sound effects of a major fire fight. It was an intimidating experience, and he was sure that his would-be rescuers were going to become casualties. He called them on his survival radio, urging them to leave the area. Thompson's laconic reply to Pankey's "You guys better get out, your'e taking heavy fire!" was "No sweat Red, we know it." Page too realized that a pickup attempt would have to be made soon, and he hovered over the two, then slowly settled, chopping tree branches with his rotors to get close enough to the ground to allow Pankey and Stephenson to grab his skids. As soon as they did, he came out of the hole he had created and headed for an open spot on the road, about 300 meters distant, where he could land and allow them to get into his aircraft. Lorimer, in the other Loach, fell in behind, with his gunner laying down suppressive fire.

Thompson had taken a 51 caliber round in his right rocket pod that destroyed seven rockets in the tubes. He was now out of ammo, but as the Loach came up out of the jungle, he decided to shield the two aviators hanging on it's skids. The heaviest enemy fire was coming from the left, so he joined on Page's left wing, putting himself between Page and the enemy. He had the best view of Pankey and Stephenson, and saw Stephenson start to lose his grip on the skid. Pankey hooked his arm through Stephenson's survival vest in time to catch him, but it was evident that he would not be able to hold on for very long. Thompson called for Page to let them down, but the Loach pilot knew that if dropped them into the jungle, they might not be able to get them out. He pressed on for the road, and just as he came to a hover at 15 feet over it, Pankey lost his grip on Stephenson, who fell, injuring his shoulder. This spot was not really large enough for the Loach and Page was forced to chop more tree branches to get down on the road, where Pankey and Stephenson finally scrambled aboard, just as 15 to 20 rounds of 23MM impacted 15 meters away. The enemy fire had not slackened a bit throughout the entire shoot-down and subsequent rescue, but the four remaining helicopters were able to withdraw and flew back to Third Field Hospital, where Pankey and Stephenson were treated. Neal Thompson wasn't satisfied with just getting out though, he wanted to give the enemy something to think about, and made a dry run on an NVA AK-47 position before joining the retreating force.

The mission was a notable footnote to U.S. Army Aviation participation in the Vietnam War. It was one of the last combat missions flown, and possibly the last shoot-down of an American Cobra. Fred Page was awarded the Silver Star and Neal Thompson got a Distinguished Flying Cross. All American Combat Army Aviation units left Vietnam the following month.

**When the final collapse of South Vietnam came, in April of 1975, Air Vice Marshal Nguyen Cao Ky flew his family out in a Huey, landing aboard USS Midway on April 29. He was accompanied by Lt. Gen. Truong. (U.S. Navy)**

There was not enough room on the ships of the rescue fleet to accomodate all of the helicopters flown out to them, and dozens of Hueys suffered the fate of this VNAF UH-1H, about to be "deep sixed" from the USS Blue Ridge. (U.S. Navy)

AB-205 rescuing crewmen from an aground ship. (Bell)

Rocky Mountain Helicopters used their 212 in a pipeline laying job in the jungles of South America, where the twin Hueys power was necessary because of the high density altitude. (Bell)

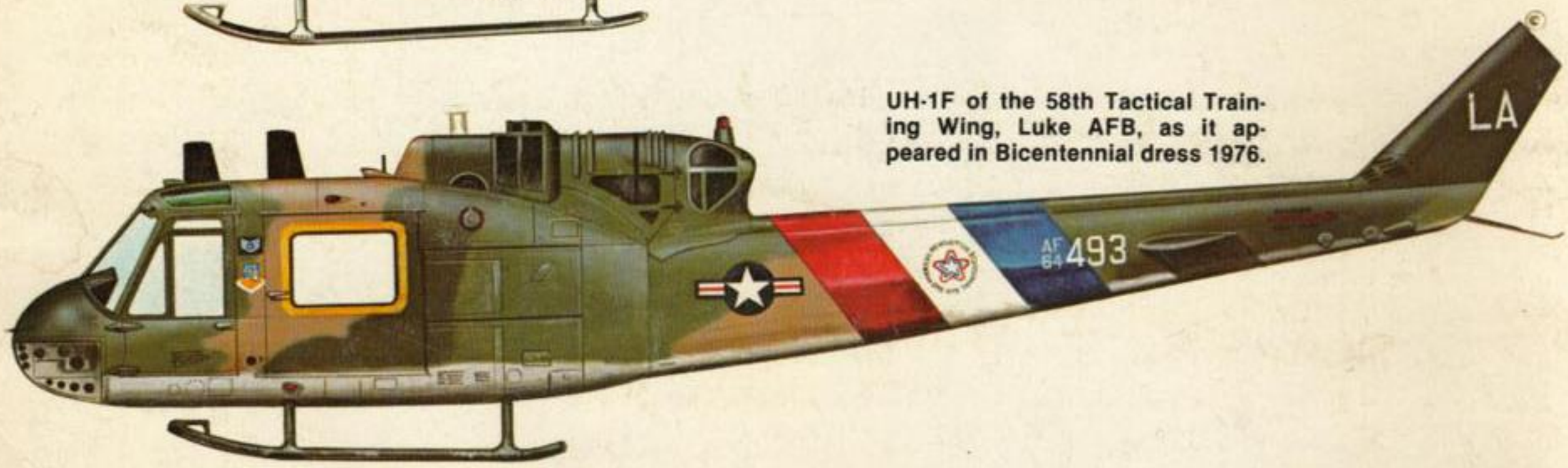
(Above and Below Left) The most powerful military Huey was the Model 214, developed for the Imperial Iranian Army and manufactured in Iran until the fall of the Shah propelled Iran back into the middle ages and shut down all modern production facilities. (Bell)

The Huey is destined to remain in frontline service for years to come, and will serve as transport for both privates and the Commander in Chief. (Bell)


UH-1C of the 174th AHC gun platoon "Sharks", 1970.


UH-1D of the 118th AHC as it appeared in late 1968. It had formerly served with the 282nd AHC which had applied the distinctive camouflage.


AB-205A attack helicopter of the 5 Rgpt. "Rigel", Italian Army Aviation.




UH-1F of the 58th Tactical Training Wing, Luke AFB, as it appeared in Bicentennial dress 1976.

RATISBN 0-89747-145-8