

US HELICOPTER PILOT IN VIETNAM



GORDON L ROTTMAN

ILLUSTRATED BY STEVE NOON

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EDITOR'S NOTE

For ease of comparison between types, imperial measurements are used almost exclusively throughout this book. The exception is weapon calibers, which are given in their official designation, whether metric or imperial. The following data will help in converting the imperial measurements to metric:

1 mile = 1.6km
1lb = 0.45kg
1 yard = 0.9m
1ft = 0.3m
1in. = 2.54cm/25.4mm
1 gal = 4.5 liters
1 ton (US) = 0.9 tonnes
1hp = 0.745kW

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GLOSSARY

chalks	A load of troops to be carried in one helicopter
201 File	Personnel records
autorotation	A power-off helicopter landing
Dust-off	Medical evacuation (MEDEVAC) helicopter
fast-movers	Jet fighter-bombers
ground pounders	Infantrymen, grunts
JP-4	Jet fuel used by helicopters
red legs	Artillerymen
stick	UH-1 Huey troop-carrying helicopter
sortie	One flight by one aircraft
stick buddy	One's student flying partner

ABBREVIATIONS

AIT	Advanced Individual Training
BCT	Basic Combat Training
C&C	Command and control
CTZ	Corps Tactical Zone
DA	Density altitude
DEROS	Date Eligible for Return from Overseas, or "de-roles"
FRAGO	Fragmentary Order
GT	General Technical
HHC	Headquarters and headquarters company
IFR	Instrument Flight Rules
IP	Instructor pilot
LRP	Long-range patrol
LZ	Landing zone
MEDEVAC	Medical evacuation
MOS	Military Occupation Specialty
NVA	North Vietnamese Army
O clubs	Officers' clubs
OCS	Officer Candidate School
ORWAC	Officer/Warrant Officer Candidate Rotary Wing Advisor Course
PT	Physical training
RVN	Republic of Vietnam
SOI	Signal operating instructions
SOP	Standard operating procedures
TAC	Tactical, Advisor, and Counseling
TO&E	Table of organization and equipment
VC	Viet Cong
WO	Warrant officer
WOAP	Warrant Officer Aviation Program
WOC	Warrant officer candidate
WORWAC	Warrant Officer Candidate Rotary Wing Aviator Course

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US HELICOPTER PILOT IN VIETNAM

INTRODUCTION

The thing is, helicopters are different from planes. An airplane by its nature wants to fly, and if not interfered with too strongly by usual 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 a helicopter pilot is so different from being an airplane pilot, and why, in general, airplane pilots are open, clear-eyed, buoyant extroverts, and helicopter pilots are brooders, introspective anticipators of trouble. They know if something bad has not happened it is about to.

– Harry Reasoner, Vietnam-era ABC anchorman

Although the United States had become militarily involved in Vietnam to an increasing degree since 1959, infantry units were not deployed there until 1965. It was a different matter for aviation units. They began deploying there to support the Vietnamese Army in 1961, and they were also among the last units to leave in 1973.

To us ground pounders – the grunts, red legs, and special operations types – who relied on helicopters for transport, resupply, fire support, scouting, and medical evacuation, the men who flew them were anonymous figures sitting behind their controls. They all looked the same to us: dome-helmeted figures with their eyes hidden by darkened visors or sunglasses. They wore dark green suits and gauntleted gloves, and they were strapped into their armored seats; they might have been robots. The only skin to be seen was their chins, with their apparently constantly moving lips partly hidden by a microphone. One of the similarly outfitted men in the

Huey pilots, viewed from the passenger compartment. They have yellow "label gun" tapes on the back of their helmets, with their names embossed. An M16 rifle bandoleer can be seen hanging from the back of the left seat, and what appears to be a leather belt, possibly for a revolver, on the right. (Virtual Vietnam Archive, Mervin Greene collection)





back of the helicopter would drop to the ground and motion us aboard. We didn't know which was a gunner and which a crew chief. To us they were all gunners. All chopper crewmen looked the same and were as young as we were. For all we knew the pilots flying us may have inserted us before. We were climbing into frail, temperamental machines flown by men we knew nothing of. Once airborne, we saw only the backs of their helmets, and what little they had to say to us was relayed by one of the gunners shouting into our ear. We knew just one thing: we had absolute faith in them to do the very best job they possibly could, and we were seldom disappointed.

The UH-1-series Iroquois, or Huey utility helicopter, was the workhorse of Vietnam. This UH-1H was introduced later in the war. This bird is armed with 2.75-in. rocket pods on the sides. Its full-color markings are typical for a stateside unit with white "ARMY"; red, white and blue national insignia; and yellow tail rotor warning band.

CHRONOLOGY

1955–63

- March 1955 First US military advisors arrive in Vietnam.
- July 21, 1955 Vietnam divided at the 17th parallel as the French withdraw.
- December 1960 National Liberation Front (Viet Cong, or VC) formed.
- December 11, 1961 First US Army helicopter units deploy to the Republic of Vietnam (RVN).
- February 6, 1962 Military Assistance Command, Vietnam (MACV) formed to control all US armed forces in RVN.
- September 18, 1962 Aircraft designation system standardized in all armed services.
- February 15, 1963 11th Air Assault Division (TEST) formed to test the airmobile concept.

1964

- August 2–4 Destroyers USS *Maddox* and *C. Turner Joy* allegedly attacked by North Vietnamese torpedo boats in the Gulf of Tonkin.

1965

- February 7 VC attack US installations in Pleiku. President Johnson authorizes air attacks on North Vietnam, commencing on February 24.



A UH-1H "slick" with the troop compartment doors locked open. It is in ground effect, hovering as it taxis to its takeoff position.
(Leroy "Red" Wilson)

March 8	First US Marine ground combat troops arrive in RVN.
April 6	US ground troops authorized to conduct offensive operations.
May 7	First US Army conventional ground combat troops arrive in RVN, 173d Airborne Brigade (Separate).
June 15	11th Air Assault Division redesignated 1st Cavalry Division (Airmobile).
July 30	US Army, Vietnam (USARV) activated to control Army logistical and support forces.
September 11	1st Cavalry Division (Airmobile) arrives in RVN.
1966	
May 25	1st Aviation Brigade activated in RVN to control nondivisional aviation units.
1968	
January 30	VC and North Vietnamese Army (NVA) initiate Tet Offensive, which ends on February 26.
March 31	US government announces de-escalation of its war effort and halts bombing of North Vietnam.
May 12	Peace talks begin in Paris.
July 1	101st Airborne Division redesignated (Airmobile).
1969	
June 8	US initiates Vietnamization Program to completely turn the war effort over to RVN forces.
1971	
April 26	1st Cavalry Division (Airmobile) departs RVN.
November 12	US forces cease offensive operations but could support Vietnamese forces.
1972	
March 10	101st Airborne Division (Airmobile) departs RVN.

1973

- January 15 US announces the halt of all ground action.
- January 27 Ceasefire agreement is signed in Paris, and US conscription ceases.
- March 28 1st Aviation Brigade departs RVN.
- March 29 Final US troops withdrawn from RVN, and MACV is disbanded. Final aviation unit to leave is 180th Aviation Company (Assault Support Helicopter).

RECRUITMENT

Universal military service – conscription, or the draft – was a key source of personnel for the US Army during the Vietnam War. All qualified males registered at age 18 and were eligible for conscription, barring deferments and exemptions, until age 27. Contrary to popular belief, the majority of the personnel enlisted in the Army were volunteers. The particulars of the Army conscription and recruiting system and requirements for service are discussed in detail in *Osprey Warrior 98, US Army Infantryman in Vietnam 1965–73*.

The road to becoming an Army aviator – a helicopter pilot, “rotor head,” or “flyboy” – was somewhat different from other career fields. Most helicopter pilots and the few Army fixed-wing types were warrant officers (WO), a special category of specialty officers (see below). Aviation WOs were different from technician WOs and underwent a much different career path and training. Commissioned officers were also rated aviators, but they held command positions and rotated in and out of aviation units to assignments in their parent branch’s units.

Pilots, whether fixed- or rotary-wing, in all other US armed services were commissioned officers. This was impractical for the Army, which needed pilots in the thousands – more helicopter pilots than all the other armed services combined. Commissioned officers, regardless of service, were required to possess college degrees, although there were a small number of exceptions. Of course, not all college graduates possessed the necessary intelligence levels,



Whether an old Sikorsky UH-34D Seadog as here, or a Huey, aviators could find themselves flying missions they had never imagined.

Troops off-loading from a hovering Huey in the Mekong Delta. The chopper cannot land as the plain is flooded. The white mist is water spray from rotor wash. (Kenneth Upton)



physical standards, and other requirements to be commissioned. Of that group only a relatively small percentage were qualified to become aircraft pilots. Many of those joined the Air Force, Navy, and Marines to fly high-performance jet fighters and bombers. These pilots could remain in the service for an exciting and fulfilling aviation career or look forward to a lucrative career in the commercial airline industry. Comparatively few of these individuals would be attracted to flying clattering helicopters loaded with grubby infantrymen into machine-gun-swept jungle clearings. Why fly a slow-moving helicopter gunship at treetop level dodging rifle fire when one could make victory rolls at supersonic speeds?

Since there were not enough qualified commissioned officers to man the thousands of Army helicopters, a warrant officer career field was established for young aviators. These men cost less to pay, and even their flight pay was less than for commissioned aviators. They did not have to undertake officer leadership training. All of their training was integrated into flight school. Nor did a career path have to be developed for them as they rose through the ranks and into more senior duty command and staff positions. They would fly helicopters their entire careers, be it six or 30 years.

Technician warrant officers were usually older, highly experienced former NCOs appointed as WOs to serve in their technical specialty. Many soldiers remember WOs as the old, crusty battalion motor officer who oversaw his domain of the motor pool with an iron fist or as the pay specialist who could fix any pay problem that his "worthless" clerks seemed lost on – if you could attract his ear. Aviation WOs were a different breed. They were typically 18–21 years old, were on their first tour in the Army, rash, and were in search of adventure. They had been raised on World War II flying movies, and most felt themselves patriotic. Their fathers and uncles had often served in World War II or the Korean War.

This Bell UH-1B is serving as a gunship with 2.75-in. rocket pods on the side. Typically in Vietnam the side doors were removed, all markings were black, and there were no national stars.



There were few civilian helicopters in the mid-1960s, and they were a curious sight if one was seen. The only familiarity many had with helicopters was from reruns of the 1957–59 television series *Whirlybirds*. Many men attracted to Army aviation had an interest in things mechanical: cars, model planes, and miniature rockets. The Army ran ads in car and sports magazines advertising, “You can be a helicopter pilot in the Army with a high school diploma.” This was a powerful inducement for a high school graduate in his first boring job, wishing something would “happen.” It was so powerful that some, lacking support for the far away war in Vietnam, ignored any reservations they might have had. Others realized that the war gave them an opportunity for adventure and something unique. Many others were already in the Army serving their first tour. They may have been three-year volunteers or draftees sweating out their two years. It does not take much imagination to see why an infantryman humping a rucksack and envious of the helicopter pilots he occasionally rode with or why a rear service support soldier stuck in a boring work-intensive job could be drawn to a pair of silver aviator wings – and become a warrant officer at that. These young men were often competitive, even aggressive. Some had a year or two of college, having dropped out after losing interest, or even having flunked out. This lost him his education exemption and made him eligible for the draft. He “beat” the system by volunteering for something other than a minimal job. He would be an officer saluted by NCOs and be allowed into the officers’ club – not an enlisted man (EM) pulling guard duty, KP, and endless fatigue details at the first sergeant’s whim. His rank and flight pay would also give him more money. He could afford a car and maybe even share an off-post apartment with another WO. And yes, the silver aviator’s wings could be a girl magnet.

However, volunteering for flight school required two-year draftees to sign up for three years, to become Regular Army (RA). If they washed out in flight school, they reverted to their previous rank and were assigned to a job in their original Military Occupation Specialty (MOS) to complete the remaining time of their three years. Once they graduated from the almost one year of-flight training, they were discharged from the Army as an enlisted man and given a warrant as a WO1. They now owed the Army six years, and it was more than likely they would serve at least two tours in Vietnam.

Qualified soldiers could volunteer for WO flight training at any time, although if on an overseas tour they usually had to wait until they returned stateside, or the Continental United States (CONUS). They had to have completed Basic Combat Training (BCT) and Advanced Individual Training (AIT) and have been awarded an MOS, their job skill. It made no difference in what MOS they had been trained. Individuals could also enlist in the Army for flight training. They too would undertake BCT and AIT, usually as an infantryman. Once graduating from AIT they might have had to wait for weeks or even months for a class slot. In the meantime they performed their duties as any other soldier. Aviator recruiting teams sometimes visited Army posts and interviewed prospective candidates. The recruiters would take the candidates on a somewhat wild helicopter ride to weed out those with a previously undetected fear of flying or those who became airsick.



A UH-1H crew chief relaxes in a pilot's seat awaiting the order to launch a mission. Below his left leg is an angled black bar. This is the collective that controls blade pitch, and is also the throttle. (Kenneth Upton)

At the beginning of 1966 there was an extreme shortage of pilots. The midyear projection was for 14,300 pilots. However only 9,700 would be available through the training pipeline at that time. Some 2,000 former pilots were asked to consider recall, but only 60 accepted. Commissioned pilots below lieutenant colonel were all assigned to aviation slots, "robbing" them from their parent branches where they were needed in other assignments. In all areas outside Vietnam, authorization levels for pilots were reduced to a quarter of their needs. All aviators with Vietnam tours would be returned to Vietnam within a year. Bright enlisted men completing AIT and quizzed if they liked fast cars or ever considered flying were virtually shanghaied into flight school. While acceptance requirements to flight school were not lowered, instructors were a little more lenient in passing students on check rides at different phases. By mid-1968, these measures, coupled with the gradual expansion of the flight schools, provided enough pilots, but just barely.

Warrant Officer Aviator Program (WOAP – pronounced "whop" volunteers were required to possess a General Technical (GT) score of 110, the same as required for Officer Candidate School (OCS). The GT score was part of the Armed Forces Classification Test (AFCT) taken by all individuals entering the armed forces. Volunteers also undertook an aviator's aptitude test, a Class 1A Flight Physical, and had to possess uncorrected 20/20 vision with normal color vision and depth perception. The aptitude tests validated one's ability to locate and orient oneself in unknown terrain. The volunteers also had to pass the Army Physical Fitness Test (APFT) and be within height and weight standards for their age, which was required to be between 18 and 32 years inclusive. Applicants needed high-speed reflex ability, to think fast, to learn fast, and to be completely ignorant of what they were really getting into.

What is an aviation warrant officer?

Most Army helicopter pilots were and are warrant officers. Outside of the service there is sometimes a misunderstanding of the role and place of WOs, known simply as "warrants." WOs are ranked above all enlisted grades, even sergeants major, although any WO would wisely be reluctant to pull rank on his battalion sergeant major or his company first sergeant. WOs are also senior to officer cadets and candidates but are below all commissioned officer grades; that is, 2nd lieutenant and up. In other words, WOs fall in between NCOs and commissioned officers in regard to authority.

A UH-1H lifts off for its takeoff run. Troops typically sat in the door with legs dangling. In the background are revetments constructed of double-walled aluminum airfield mats backfilled with sandbags. (Leroy "Red" Wilson)



This does not mean that NCOs progress upward and then through the WO grades, nor do WOs progress up through commissioned officer grades. Enlisted WOs and commissioned officers are separate career paths. NCOs, after reaching a certain degree of skill in technical fields, could be warranted through competitive examination, and there were instances where exceptional WOs, still within the maximum age limitation for commissioning and having obtained college degrees, were commissioned. For this reason most nonflying WOs were older, highly skilled technicians, possessing years of experience in their specialty; these were the technician WOs. They might be communications-electronics technicians, automotive technicians, administrative or finance specialists, bandmasters, masters of large Army landing craft or other watercraft, counterintelligence specialists, or radar repair technicians, among other fields of expertise. The WO route was not available to all NCOs; there were no WOs in combat arms branches. For example, infantrymen and tankers did not become WOs.

The role of the WO was to serve in specific technical positions requiring greater longevity and experience than the usual billet assignment of commissioned officers. He was a technical expert, a leader, a trainer, and an advisor providing valuable technical skills, guidance, and expertise to commanders and organizations in their particular field.

Army-commissioned officers receive their commission through the President and possess the authority to command, to allocate funding, and they have judicial authority to assign disciplinary punishment. WOs can lead small units such as specialized sections and platoons, detachments, or vessels as part of a larger unit commanded by a commissioned officer. In that regard they have basically the same leadership authority within their area as NCOs.

There were four WO grades (today there are five). Warrant Officer 1 (WO1), the entry-level grade, was warranted by the Secretary of the Army. The three higher grades were rated chief warrant officers (CW2, 3, and 4). Upon reaching CW2 they were commissioned by the President, taking the same oath and receiving the same commission and charges as commissioned officers deriving their authority from the same source. They were still technicians and did not have full command authority.

WO helicopter pilots were in a somewhat different category from technician WOs. They did not work their way up through the NCO ranks gaining technical expertise along the way to eventually become warrants. They either enlisted in the Army specifically to become pilots or volunteered after having served a relatively short time as an enlisted man who then entered the WOAP.

Aviation WOs originated in 1947 when the Air Force became a separate branch of service. Previously there had been a "flight officer" rank equating to the old WO junior grade, but this rank was eliminated. Aviation WOs were envisioned as the capstone of enlisted aircraft maintenance specialists, along the same lines as other specialist NCOs becoming WOs. However, in 1949 it was decided that no other services' aviators were expected to possess such intimate knowledge of aircraft maintenance, and the number of applications for WOs was draining off the already small numbers of valuable NCO aircraft maintenance supervisors. Civilians with comparable commercial aircraft maintenance experience could also be enlisted for the WOAP. WO pilots were expected to serve as career pilots, while commissioned officer aviators, commanding and staffing units, were rotated in and out of aviation units.

It was not uncommon for the shark-like Bell AH-1G Huey Cobra to bear tiger's teeth. This one is undergoing painting with only the white eyes and teeth painted in and awaiting the snarling red lips and black mouth and iris. Note the peace symbol on the nose cover of the 2.75-in. rocket pod.



Originally it was thought that WOs would replace all lieutenant and captain pilot positions, but it was realized that junior officers needed to command aviation sections and platoons to obtain experience in aviation operations before commanding and staffing units. The first WO candidate class in the Army Helicopter Pilot Course was in 1951. Pilot WOs had been listed on tables of organization since 1950 and were assigned MOS 1066 regardless of what type of aircraft they were qualified on. Proponency for aviation training was under the Transportation Corps at that time as there was no aviation branch. The MOS system was changed in 1965, and WO helicopter pilots were assigned new MOSs:

Ft Wolters stage fields

The seven pre-Vietnam stage fields were given "Western-related" names while the later ones were named after towns in Vietnam, and were located in approximately the same relationship to one another, but not in terms of distance. When opened in 1956 there were four stage fields, and these grew to the following 25 during the war. The stage fields were about 7 1/2 miles to 12 miles out from Ft Wolters.

Pinto	An Khe
Sundance	Bac Lieu
Ramrod	Ben Cat
Mustang	Ben Hoa
Rawhide	Cam Ranh
Bronco	Can Tho
Wrangler	Chu Lai
	Da Nang
	Hue
	My Tho
	Phu Loi
	Pleiku
	Qui Nhon
	Soc Trang
	Tay Ninh
	Tuy Hoa
	Vinh Long
	Vung Tau

062B: Helicopter Pilot, Utility and Light Cargo Single Rotor

(UH-1, OH-13, OH-23, OH-6A, OH-58, AH-1)

062C: Helicopter Pilot, Utility and Light Cargo Tandem Rotor (CH-21)

062D: Helicopter Pilot, Medium Transport (CH-47)

A very small number of WOs were selected for Fixed-wing Flight School at Ft Rucker, AL, or Ft Stewart, GA. They flew O-1 Bird Dog observation, OV-1 Mohawk surveillance, U-1 Otter, U-6 Beaver, U-8 Seminole, and U-21 Ute utility aircraft for liaison, utility, VIP transport, and surveillance.

WOs had the same privileges and received the same honors as commissioned officers (i.e., were saluted by lower rankers, had authorized officer-grade quarters, and had access to the officers' club). Officially, WOs were addressed as "Mister" and "Sir" but more commonly and informally as "Chief," or even "WO1." However, WO pilots preferred not to be called Chief since their enlisted crew chiefs were commonly called the same, although they normally tolerated nonaviation soldiers who erroneously referred to them as Chief. As warrant officer candidates (WOC) they were informally called "wocks," "like something you would throw at a wabbit." Commissioned officers were referred to tongue-in-cheek as "real live officers" (RLOs), and RLOs called a WO a "Wobbly 1" or simply "W2," their pay grade; the former failing to endear RLOs to warrants.

WOs were not assigned duty positions by grade on the unit table of organization. Warrant positions were listed merely as "WO," irrespective of grade. There was a limitation on the number of commissioned officers that could be assigned to aviation units, but there was no similar cap for WOs.

Commissioned aviator officer shortages frequently saw WOs serving as section and platoon commanders and on aviation unit staffs.

Army aviation was not a branch. During the Vietnam War aviation units and commissioned aviators were assigned to infantry, armor, artillery, transportation, medical, military intelligence, and other branches. This decentralized employment of aviation assets was less than satisfactory. Aviation was thought of as only another means of transportation, and helicopters were integrated into units along the line of trucks.

Commissioned officers rated as aviators held command and staff positions. Command positions included battalion/squadron (LTC), company/troop (MAJ), platoon (CPT) commanders, and section and team leaders (LT). Rated officers also filled battalion/squadron XO (MAJ), S3 (operations) (MAJ); and aviation safety, aviation maintenance, and liaison officers (CPT at battalion/squadron, LT at company/troop levels) positions. Other battalion staff officer positions were also held by rated aviators. Aviation battalion and company commanders carried the MOS 1983, operations officers carried 1982, and platoon and section leaders carried 1981. Air cavalry unit commanders were assigned MOS 61204 whether they commanded squadrons or sections.

TRAINING

If enlisting for flight school or volunteering during training, future aviators undertook Basic Combat Training (BCT) just as any other soldier. BCT could be conducted at one of many training centers throughout the country. Many destined for flight school took Basic at Ft Polk, LA. Basic was eight weeks in duration, preceded by Zero Week for administration, inoculations, uniform issue, and testing, among other preliminary requirements. BCT was undertaken by all enlisted men entering the Army. It included instruction in discipline, customs and courtesies, rank, the military justice system, drill, physical fitness, bayonet, M14 rifle qualification, hand grenades, hand-to-hand combat, individual combat techniques, first aid, field sanitation, and physical conditioning.

Upon graduation recruits were sent to AIT at one of seven infantry training centers or, for other combat arms or service support MOSS, at a branch school.

Training helicopters

The Army's primary training helicopters were originally the Bell OH-13G Sioux and Hiller OH-23D Raven. These were similar makes of two-seat light observation helicopters. Both choppers were used interchangeably in Vietnam as scouts. Dating from the Korean War, neither was still in production. To replace them the Hughes TH-55A Osage, derisively known as the "Mattel Messerschmitt," was introduced in 1967. The earlier helicopters were preferred as trainers, but with the expansion of flight training a lower-cost helicopter was needed. Specific student flights were assigned one type of aircraft, and they remained with it through Primary. In the Advanced School, instrument training was conducted in the TH-13T, a modified OH-13S with a complete instrument package, and replaced in early 1967 by the Bell UH-1A Iroquois. UH-1B, C, and D Iroquois or Huey utility helicopters were used for transition flying to qualify on the aircraft. Training helicopters were painted entirely or partly international orange.



The simple instrument panel of the OH-13G was ideal for primary flight training. It was not so complex as to confuse the student.

For most combat arms MOSs (infantry, artillery, armor, engineer) and many service support MOSs, AIT was eight weeks. Most technician MOS training ranged from 12 weeks to many months. Many future warrants were sent to Infantry AIT (MOS 11B). If they washed out of flight school, they could then be utilized as infantrymen, of which a shortage prevailed through the war. (The details of BCT and Infantry AIT are discussed in *US Army Infantryman in Vietnam*.)

With the serious need for aviators in Vietnam from 1968, some flight training volunteers went directly from BCT to Ft Wolters or were pulled out of AIT before completing it. Training did not always begin immediately upon arrival at Wolters. Many candidates spent up to a month "snowbirding," waiting for an available class. During that time they pulled KP, work details, and physical training (PT).

As WOCs they drew E5 pay (\$226.20 per month with under two years service) but were not considered sergeants. If they had held a higher enlisted grade prior to becoming a WOC, they continued to receive that pay. Despite WOCs undertaking seven months of flight training, they were not eligible for flight pay until graduation and until they were fully rated as aviators. However, commissioned officers undergoing flight training did receive flight pay.

Primary Flight School

Ft Wolters was east of Mineral Wells, TX, and west of Fort Worth. Wolters was the US Army Primary Aviator Flight School. It originated as Camp Wolters in 1925, and during World War II it was an infantry replacement training center. It was deactivated in 1946 and transferred to the Air Force in 1951 as Wolters Air Force Base. Wolters was transferred back to the Army in September 1956, and the Primary Flight School was transferred from Ft Rucker. This move was made because as Army aviation grew, there was not enough ground and air space at Rucker to accommodate all phases of training. Wolters was redesignated as a permanent post in June 1963 and renamed Ft Wolters. The terrain was relatively flat, although there were sufficient hills and peaks for "pinnacle" landing practice. The surrounding area was sparsely populated and devoid of overflying commercial air traffic. The weather was mostly favorable year-round for flying, but summers were hot and winters colder than many expected in Texas.



The OH-13G and OH-23D began to be phased out by the Hughes TH-55A Osage trainer. The earlier trainers were no longer in production and existing choppers were wearing out. The Osage was developed as a low-cost replacement.

Foreign helicopter pilots from 30 countries also trained at Wolters, including many from the Vietnamese Air Force. Marine helicopter pilots began training there in 1968, and Air Force pilots began using the facility in 1970. Government agency civilian pilots were also trained at Wolters. When established in 1956 the school operated 12 OH-23 observation helicopters as trainers. By 1965 there were 400 training helicopters, 775 the following year, and just over 1,000 in 1967. By 1970 there were almost 1,300 training helicopters. In March 1966 the post was redesignated the US Army Primary Helicopter Center. The small numbers of Army fixed-wing pilots received their primary flight training at Wolters, as did Regular Army and Army National Guard commissioned officers taking primary helicopter training.

The base had the usual post facilities and amenities: post headquarters, various administrative and support offices, troop barracks, mess halls, quartermaster issue facility, motor pools, aircraft maintenance facilities, movie theater, bowling alley, service clubs, officers' club, library, gymnasium, other recreational facilities, chapels, and hospital. Of course there were extensive aviation facilities, including three heliports. Besides the main heliport, Downing Heliport was built adjacent to it in 1966. Dempsey Heliport was built west of Mineral Wells near Palo Pinto in 1968. There was also the Collazo Army National Guard Airfield and 25 stage fields, many of these on leased ranch land off-post. The heliports were massive expanses of tarmac apron, where hundreds of training helicopters parked on their marked pads.

The content, scope, and organization of the training evolved through the school's 17 years. Depending on the time in question, students had different experiences. The following describes Wolters in about 1970. While there were differences in earlier classes, the students' experiences shared a certain commonality.

Warrant officer candidates reporting for duty signed in and were assigned to a WOC company or to the holding barracks if awaiting a class. Early on, from 1965, the 1st-4th WOC companies were flight training, and the 5th was for Preflight. In 1967 the 5th moved up the hill to join the other companies in the new barracks along with the new 6th-8th WOC companies. The 9th and 10th companies were for Preflight. Later, all WOCs were assigned to one of the ten companies in which they undertook all phases of training. By 1970 these were organized into the 1st and 2d WOC battalions under the Student Brigade. There was also a Student Officer Battalion of four companies, plus a Vietnamese Student Company. Prior to this there had only been the single Student Officer Company. Commissioned officers and the few already-warranted WOs undertaking flight training attended the 16-week Officer/Warrant Officer Rotary Wing Aviator Course (ORWAC). The Warrant Officer Candidate Rotary Wing Aviator Course (WORWAC) was 20 weeks.

WORWAC classes were identified by the year and an odd number, such as 68-7. ORWAC classes were identified by the year and an even number. Class sizes varied over the years, but by midwar it was typically 100-200 with up to one-third washing out. Companies were subdivided into two structures. For flight training and academics, companies were divided into two lettered flights; flights were divided into as many as four sections depending on the class size, e.g., Flight A-3 or B-1. One flight flew in the morning, while the other undertook academic studies in classrooms and would fly in the afternoon. They would do this for a week, and then the morning flying flight would switch to afternoons. For administration, companies were divided into as many as five platoons. The last platoon comprised recycled students.



What has become an iconic photograph of the Vietnam War – air cav troopers of an aero rifle platoon being inserted on a hilltop from a UH-1H Huey. The countless confined-area touch-and-go practice landings the pilots made during training served them well in Vietnam.

Students were assigned to platoons in alphabetical order. Individual positions were directed by Tactical, Advisor, and Counseling (TAC – pronounced “tack”) personnel, but each class elected its own president, vice president, secretary, and treasurer. Platoons usually made their own guideon flags, often of an amusing nature.

The first four weeks of training was the WOC Indoctrination Training Course, known as Preflight, with the initial 91 hours of WO development training covering everything from map reading to management of personal finances. The Student Evaluation Review Board could eliminate WOCs for such infringements as lack of character, lack of motivation, or poor aptitude. They would become, after all, officers. The WOCs marched in formation to

A

PRIMARY FLIGHT TRAINING – FLYING

During flight training the prescribed uniform was the K-2B very lightweight man’s flying overalls. The suit was sage green, a light grayish green used by the Air Force; much Army aviation gear was procured through the Air Force. Preparing for a flight in a Hughes TH-55A Osage training helicopter is a WOC (1) who has successfully soloed, as indicated by the unofficial solo wings on his company-colored baseball cap. The Southern Airways pilot instructor (2) displays corporate insignia. While a civilian contractor, he had served in Vietnam as indicated by the 1st Cavalry Division patch on his sage green helmet bag, and is currently a member of the Texas National Guard’s 49th Armored Division’s aviation company. All sorts of patches could adorn veteran pilots’ helmet bags. Helmet bags were effectively a pilot’s “brief case,” in which were stowed maps, logs, airfield landing plates, and other documents. Their APH5 helmets would be white, although the PI might still have the helmet he used in Vietnam.

A





The OH-23D instrument panel was as simple as the OH-23G's. The cyclic control stick is seen in the lower right.

classes, to meals, and to and from barracks. They were bussed to the heliports and stage fields. To oversee them, each flight was assigned two TACs, usually a CW2 and an NCO, a staff sergeant or sergeant first class. Both usually had a tour in Vietnam under their belts and were equivalent to the drill instructors experienced during Basic. The TACs ensured that the WOCs maintained strict military discipline and decorum (barracks squared away, that WOCs righted their many wrongs, etc.); maintained WOC training records; and

conducted PT, drill, and inspections – all the time meting out a good deal of harassment. They fired a barrage of questions at marching students while another TAC shouted others. The idea was to see if students could prioritize and sort out what was important while being distracted. There was no harassment on the flight line or in the classroom. TACs also saw to it that the WOCs participated in the mandatory evening study sessions, although their pestering sometimes made it difficult for a WOC to absorb his lessons. The idea was to ensure the students paid meticulous attention to detail.

The barracks might be the World War II two-story, wood-frame type modified by being compartmentalized into three-man rooms, or the new big cinderblock three-story barracks, also divided into three-man rooms. A room had a double bunk and a single bed and three built-in lockers with drawers and shelves. There was a single, large latrine and shower room on one end of the first floor of the wooden barracks, and in the center on each floor of the three-story barracks. Mess halls were separate buildings adjacent to the barracks.

A tradition was Grundy Day when the WOCs would “take over” the company. The date was kept secret, but it was always a Saturday, and the company would don a self-prescribed “uniform” (orange-side-out aviator’s jacket, gray sweat pants, and black necktie tied in a bow, for example) and “relieve” the company commander. It would be a day of pranks and gags, a day to blow off steam.

The WOCs were assigned to one of the flight training companies and drew flight gear, which they retained through their entire flight training process and when assigned to an aviation unit. The eight-week Primary I was conducted by Southern Airways of Texas and consisted of 50 hours of flight training. Two or three students, depending on the class size, were assigned to an instructor pilot (IP), their “stick buddies.” The IPs would fly with one student out to a designated stage field, and the others would bus out to the field where they would crack the books in the classroom adjoining the control tower. The students would take turns flying through the morning or afternoon. The other half of the day was spent in academic classes where students had a wide variety of complex subjects to learn.

Most stage fields were composed of six parallel tarmac lanes with a control tower. Lanes 5 and 6 were allocated for autorotation (power-off) practice, and the others for practice takeoffs and landings. Hover practice was conducted on the tarmac area or between the lanes. Emergency procedures and flight maneuvering were conducted away from the stage field over a bare patch of prairie.

Students began by learning to hover, described as balancing on a ball bearing rolling on a glass table, or as one pilot described it, "like patting yourself on the head and rubbing your tummy while running down the stairs." The pilot had to move the collective stick up and down with one hand, operate the cyclic control with the other, manipulate the foot pedals controlling the tail rotor, maintain 3,200 engine rotations per minute, stay oriented with a point on the ground without drifting, maintain a specified altitude, and be aware of wind speed and direction. A milestone was archived when the student was able to correctly hover, officially: "Having remained motionless in space; flown backward, forward, sideways and vertically in US Army helicopters, is hereby rated a genuine US Army Hoverbug." Autorotation practice was critical and quite stressful. Entered at 500ft above ground level with the IP rolling off the throttle, but keeping it in the engine idle position to allow the rotor to rotate without engine power, the student immediately reduced the collective pitch, ensuring that the rotor did not underspeed. The chopper immediately dropped, and at 100ft the helicopter was flared, reducing airspeed and ground speed as it continued to drop groundward. At 15ft collective pitch was applied to further reduce the airspeed and rate of descent. Then in the final 3ft collective was further applied to cushion the landing while ensuring the skids were level.

During the initial short flights around the stage fields, the students were taught constantly to scan the instruments, ensuring the data was registering in their minds, and to maintain awareness of their attitude, ground track, and wind direction, among other variables. Subsequent instruction covered in-flight engine failures including those in a hover or during takeoff, engine fire in a hover, tail rotor failures at different times, and so on, repeatedly.

Within about two weeks students had accumulated the requisite ten hours of solo flight time. A few gifted students might have been allowed to solo after eight hours. When the student felt ready and was given the nod by his IP, he would be cleared through the stage field tower to make three circuits. On the way back to base the bus would detour to the Mineral Wells Holiday Inn where soloing students were dunked in the pool in their flight suits.

At the end of Primary I, bottles of liquor were given to the civilian instructors. The IPs in the eight-week Primary II were military, about 70-percent WOs and 30-percent commissioned, all Vietnam veterans. Training was moved to Dempsey Heliport on the other side of Mineral Wells. Flight training went on with increasingly difficult tasks, including dealing with emergencies at night.



Dozens of OH-23Ds lined up on the tarmac of Downing Heliport at Ft Wolters. Each chopper had its own numbered pad.

A Hiller OH-23G Raven, here with stateside markings, was used as a scout helicopter in Vietnam, and was armed with two .30-cal. machine guns on the skids. It was also used as a primary trainer.



Night solo flights, day and night flights, and long-distance cross-country flights were conducted to perfect navigation skills. These flights were often conducted with a stick buddy, with one student flying out and the other flying back. Such cross-country flights might be as distant as Abilene, TX, or Ft Sill, OK, where the helicopters would refuel. Students also conducted tricky pinnacle landings on peaks and cliff tops, landings in confined areas, and slope landings. Further instruction included more autorotations and emergency procedures, low-level operations, and navigation. Sites used in these operations were marked with colored tires (white=easy, yellow=difficult, red=very difficult). Students took check rides conducted by the Flight Evaluation Division at each phase to demonstrate their proficiency.

There was no margin for error, and no slack was cut for marginal performance. A student could be washed out at any time. Those with unsatisfactory performance or those failing academic subjects or possessing motivational or attitude problems were reverted to their original rank, usually private or private first class, and sent to a unit needing their MOS. However, some were considered "salvageable" and were recycled to another class for additional training.

WOCs were required to undertake a great deal of study, but there was some free time, after the first two months during which there were no passes. There were a lot of recreational facilities on the post, but being young men they were enticed off-post. Some had cars, and taxi and bus fares were cheap. Motorcycles were banned. The nearby Mineral Wells Holiday Inn was a favorite weekend hangout, with most rooms booked by students. A common practice was for WOCs to pool their meager resources and send a chartered bus up to Texas Women's University north of Fort Worth. WOCs' girlfriends there would alert other girls and they would go down for the weekend, being given rooms at the Desert Inn in Mineral Wells. These were called "flight suit parties," as the girls would wear the WOCs' suits for the weekend. Another source for dates was the American Airlines Stewardess College in Fort Worth. Many WOCs eventually married these stewardesses and college girls.

Academic training included watching aeronautic training films, many dating from World War II and the Korean War, and attending endless classes on preflight procedures, flying safety, aircraft preventive maintenance, weather, radio



A classroom simulator taught the student the basics of flying the TH-55A.

operation and procedures, navigation, flying maneuvers and techniques, and much more. Written exams were frequent. There was no leave granted during flight training other than Christmas leave for classes in session over the holiday.

Commissioned officers in the ORWAC were mostly 2LTs who had volunteered out of Officer Candidate School (OCS) or college Reserve Officers' Training Corps (ROTC) and had completed their branch basic course. They were assigned to the infantry, armor, artillery, transportation, medical service corps, and other branches, and were aviators secondly. Very few West Pointers attended flight school. Prior to attending flight school, officers were normally assigned an "initial utilization tour" where they served as a platoon leader in their branch. This was a one-year tour, often overseas in places such as Germany, Korea, or Panama. Then if not volunteering for flight school, they would go to Vietnam. The need for pilots was so great that by 1969 many officers were skipping the branch basic course and utilization tour and going straight into ORWAC and then to Vietnam. An officer's branch was loath to "lose" good officers to aviation however.

The 20 weeks of training passed quickly. It was exciting, fast-paced, demanded hard work and study, and offered an element of danger. Six to 12 students were killed a year, and others suffered serious injury. Graduation day finally came with a simple ceremony at the post theater. Grads were presented a certificate, but they knew they still had a lot of hard work ahead before pinning on wings and WO bars. From Ft Wolters they were given a week to travel to Ft Rucker, AL, or Ft Stewart, GA, for the Advanced Flight School.

Advanced Flight School

Ft Rucker is located in southeast Alabama, near the town of Ozark. It was opened in 1942, and served as an infantry division training post until inactivated in 1946. It was reopened in 1950, and in 1954 the Army Aviation School moved there from Ft Sill, OK, and became the Army Aviation Center the following year. In October 1955 the camp was renamed Ft Rucker. This was to become the main Advanced Flight School, where pilots who had completed the Primary Flight School continued their training.

With the rapidly growing need for pilots, it was found that space did not allow expansion of the advanced course. The Air Force closed its Hunter

Southern Airways of Texas, Inc.

The Southern Airways Company had trained thousands of personnel for the Army Air Forces in World War II. In 1956 it was given the contract to conduct primary flight training at Ft Wolters and continued to do so until the school closed in 1973. In 1963 the Ft Wolters operation became a separate corporation, Southern Airways of Texas, Inc. Southern Airways instructors provided classroom training in aerodynamic-related subjects, and some 300 IPs ably instructed and coached student pilots through Primary Flight I. Most of the instructors were former World War II and Korean War pilots (including former commissioned officers, flying officers, and "flying sergeants"). Others were civilian helicopter pilots trained at their own expense, former WO aviators having completed their military service, and Texas and Oklahoma National Guard WO pilots. The firm's 1,800-man maintenance department maintained all of the school's helicopters (except those flown by foreign students, which were maintained by the Army). They operated 24 hours a day, maintaining and making minor repairs. Southern also provided bus drivers, food service personnel to operate the mess halls, and other service staff. The company freed over 3,000 military personnel and helped reduce operating costs. The instructors wore K-2B flight suits with a white-on-black name tape on the right chest, white company wings on the left, and an olive green baseball cap.

A flight instructor critiques a WOC after returning from a training flight in an orange-and-white-painted TH-55A. Such critiques were cordial and constructive, unless the student had "tried to kill them."



Field, adjacent to Ft Stewart, in 1967, and the Army established the US Army Flight Training Center there, with a second Advanced Flight School. Camp Stewart, near Savannah in southeast coastal Georgia, was established in 1940 as an antiaircraft artillery training center to become the largest post east of the Mississippi River. The base was inactivated in 1945, but was reopened in 1950 and redesignated Ft Stewart in 1956. Advanced flight training was conducted at Hunter Army Airfield until the facility closed in mid-1972. The training of Vietnamese helicopter pilots was conducted there from 1970. Helicopter door gunnery was also taught there.

The advanced flight training conducted at both Rucker and Stewart was identical for all practical purposes, allowing for differences in terrain and facilities. The training locations described here are Rucker, affectionately known as "Mother Rucker." At Stewart all training was at Hunter Army Airfield. WOs' and commissioned officers' training was still segregated. WOCs suffered little harassment now.

Advanced training was divided into four four-week phases under the Department of Rotary Wing Training. Basic and Advanced Instruments were conducted by the Basic and Advanced Instrument Training Divisions at Hanchey Heliport. The IPs were civilian contractors. The Basic Phase was conducted in the TH-13T helicopter. UH-1As were used beginning in 1967. The goal was to provide each pilot with sufficient training in Instrument Flight Rules (IFR) to get out of trouble if he found himself in an "inadvertent IFR" situation, such as getting caught in a sudden rainstorm or fog. This gave the pilot a Tactical Instrument Ticket, allowing him to fly under US combat flight rules within Vietnam. Student pilots, accompanied by an IP, would fly wearing the instrument training hood, a face shield that prevented him from seeing out of the windshield, but allowing him to see the instrument panel. Flying with the hood was none too popular. Pilots constantly practiced turns, climbs and descents, and unusual attitude recoveries, among other maneuvers. Classroom work reinforced areas of study such as instrument procedures, weather, and flight and approach planning. Ground Instrument Flight Rules training was conducted in Link trainers. Students complained of the value of this because the World War II-vintage Link trainers were designed for fixed-wing aircraft. The controls were only slightly modified by adding a collective. The control movements and instrument layouts bore no resemblance to helicopters. When students complained that they were told that Link trainers



Routine supply and administrative passenger hauling were common "milk run" missions. Often officers were delivered to firebases and units in the field to conduct face-to-face coordination. (Leroy "Red" Wilson)

were "procedural" trainers and did not need to replicate helicopters. Upon completion of this 25-flying hour phase, students received a Tactical Instrument Ticket.

The next phase was Contact, provided by the Contact Training Division at Knox Army Heliport, using UH-1B, C, and D Hueys. All instructors were military. There was a great deal of takeoff and landing training, including training with heavy loads, which greatly affected the handling of helicopters. Additional training included autorotations under different circumstances, normal and steep approaches, traffic patterns, cross-country flight planning, wind drift factors, and fuel consumption planning, among other required skills. This phase was also qualification on the Huey, the Army's most numerous helicopter.

The Tactics Phase was conducted by the Department of Tactics at Lowe Army Airfield, using Hueys. While most IPs were Vietnam veterans, some were not, but in the Tactics Phase all were veterans. During the first two weeks, Tac-1, half of the students would fly out to the field sites, and the other half would bus out to fly in the afternoon. The nonflying students would take classes. Pilots practiced low-level flying at treetop level, sling load operations, locating and flying to homing beacons, conducting troop insertions and extractions, night flying under tactical conditions, tactical takeoffs and approaches, tactical formation flying, aerial route reconnaissance, and airborne radiological surveying, among a host of other skills. Some of the training was for missions they would conduct only in a conventional or nuclear war environment, and would never be experienced in Vietnam. Pilots would also conduct a night escape and evasion exercise in which they were inserted on the ground, as though their aircraft had been downed, and then attempt to exfiltrate, avoiding capture by aggressor troops searching for them. The last two weeks was Tac-X, a tactical field exercise. The students moved to the field and lived in a base camp under pup tents. The conditions were made as similar to the harsher aspects of Vietnam as possible. Day and night tactical missions were conducted much as they were in Vietnam. The night flights were difficult because the only lights to navigate by came from the few widely scattered towns.

A Bell OH-13-series Sioux was used as a scout helicopter until 1968. The OH-13G was also used as a primary helicopter trainer. This chopper rests on an apron of pierced steel plates (PSP). Note the helicopter revetment beyond its canopy constructed of soil-filled helicopter blade shipping containers.



While there were still washouts at Rucker, they were greatly reduced compared to the loss rate at Wolters. When the big day finally came for the WOCs, a promotion ceremony was held at the post theater, and their WO1 bars and “squashed bugs” (the gold-winged spread eagle and wreath) were pinned on their Army green uniforms to which black braid had been added. Pilots had averaged 200–220 flying hours by now. The warrants also received a new seven-digit serial number preceded by a “W,” replacing their two-letter, eight-digit enlisted serial number. (From January 1968, Social Security numbers replaced serial numbers, and the letter prefixes were dropped.) The next day, graduation day, the combined graduating WOC and commissioned officer students conducted a mass flyover in Hueys, undoubtedly a nightmare for air-traffic controllers and a worry for the base commander and safety officer. Both groups had their silver wings pinned on and received their certificates. They were now Army aviators. Staff Sergeant Barry Sadler’s popular “Ballad of the Green Berets” had an aviator’s version:

Silver wings upon my chest,
I fly my ship above the best.
But I can’t wear no Green Beret,
I can make more dough that way.

Most graduates received orders for Vietnam and a well-deserved, predeployment 30-day leave. A few would deploy overseas or to stateside operational or training assignments, but there were very few helicopters in aviation units outside of Vietnam: only 250 aviators were assigned to Germany, and 34 were assigned to Korea (at one point there were only two WO pilots in the 7th Infantry Division in Korea). By 1973 some 40,000 pilots had been produced. The peak graduation rate was in 1967 with 600 per month.

B

PRIMARY FLIGHT TRAINING – ACADEMICS

The daily training uniform, when not flying, was the cotton olive green fatigues, highly starched and boots spit-shined. The WOC (1) is braced at attention and undergoing counseling by a CW2 TAC (2). Early on, WOC companies were identified by colored plastic discs on their OG baseball caps. The orange pocket tab identified the WOC as undergoing Primary I. The TAC officer wears the distinguishing glossy, black helmet liner. A passing senior class WOC, who no longer had to endure such harassment, wears the khaki uniform and is identified by the black-striped orange shoulder strap tabs designating him as a member of the senior WOC company. The Combat Infantryman’s Badge identifies him as a combat veteran; on his right shoulder would be the patch of his unit in Vietnam. All wear the Primary Flight School patch, but the TAC, as other staff and cadre, additionally displays the Primary Helicopter tab.

B



APPEARANCE

Warrant officer candidates appeared little different from basic trainees, with most being 18–21 years of age, although a few were a bit older, having already been in the Army a few years. Most were white and middle class – it was rare for an African American to be found in a class and Hispanics were only slightly more common. Candidates were fit and trim and wore their hair cut short on the sides and back. They may have sported a flattop, or the top was cut short with barely enough hair to comb. Mustaches were discouraged, but once assigned to a unit, especially air cavalry, neatly trimmed mustaches were fairly common, although some unit commanders forbade them.

The standard stateside duty uniform was the olive green shade 107 utility uniform. More commonly known as fatigues, they consisted of a 100 percent cotton shirt and trousers. Fatigues were habitually heavily starched at on-post civilian cleaners. When picked up they were stiff as a board and the phrase “breaking starch” could be taken literally. When shoving one’s arm into a sleeve or a foot through a trousers leg, the sound made was like ripping fabric. The shirt was tucked neatly into the trousers and the trousers bloused into spit-shined black leather combat boots. It was popular to use blousing garters rather than actually tucking the trousers into the boots, but this was never permitted by WOCs. Blousing garters, also called “blousing rubbers” because two condoms were originally used as a rubber band, were twisted green elastic cords with a small hook on both ends. It was fastened around the ankle above the boot top, the sock extended above the boot top, and the end of the trousers’ leg was turned up under the garter.

Identity tags, or dog tags were part of the uniform. Often a religious symbol or locker key was worn on the dog tag chain. A watch was typically worn on the left wrist – Seiko and Rolex watches were quite popular, usually with a black face. Technically, the Army issued wristwatches to aviators, but stylish civilian watches were preferred. Issue watches made by Hamilton, Westclox, and Benrus had black faces, luminous dials, and olive drab web bands. They mostly showed up on the wrists of those “flying desks.”

WOs were not assigned to a branch of service as were commissioned officers. Enlisted men wore the branch of service insignia of the branch their unit was assigned to. WOs had worn a gold-colored rising spread-winged eagle and wreath since 1921. The WO eagle, the “squashed bug,” was worn on the left collar of fatigue and khaki uniforms. Their rank bar was worn on the right collar. The subdued WO eagle was black metal or embroidered black on olive green.

The dull silver 2½-in. (63.5mm) Army Aviator’s Badge, depicting the US shield on outstretched wings, was worn over the left breast pocket and on the front of the field cap above rank insignia. On khakis and greens the wings were worn above ribbons. Black metal and black embroidered on olive green subdued wings were available from 1968. Two additional ratings were Senior Army Aviator (mounting a star) and Master Army Aviator (mounting a wreathed star). The Senior Army Aviator was required to have served seven years as a rated aviator with at least 84 months in operational flying duty assignments and accumulated 1,000 hours of flight time. The Master Army Aviator must have served 15 years with 120 months of operational flying and accumulated 2,000 hours’ flying time.

In 1968 subdued insignia began to replace full-color insignia on field uniforms: rank, branch of service, special skill badges, shoulder tabs, and unit patches. The changeover was not completed until 1970–71. In the interim,

owing to the irregular availability of subdued insignia, mixed full-color and subdued insignia could be displayed on uniforms.

On occasion the Army khaki shade 1 uniform was specified as the uniform of the day. The cotton uniform was a light tan. The summer version of the shirt had an open collar and short sleeves, while the winter was long sleeved (phased out in 1966) and worn with a black necktie.

The Army green shade 44 garrison cap, commonly called an "overseas cap" or "c**t cap," was worn with khakis. The cap's curtain was piped according to rank category. Commissioned officers' piping was gold and black intertwined, WOs' was silver and black, and enlisted men's were Army green as the cap itself. On the Army green service cap, which could be worn with the Class B khakis or Class A Army green uniform, WOs wore an enlarged version of the "squashed bug."

A white undershirt was worn, as was a "black" (actually dark blue) web belt with a solid brass rectangular buckle and brass tip on all uniforms including fatigues. In the field an open-faced square brass or black buckle was substituted and sometimes a black tip. Black low-quarter dress shoes and black socks completed the khaki uniform.

Khakis were also heavily starched. While a sharp-looking uniform when donned, it was only a matter of hours before it looked like it had been slept in. What were called "military pleats" might have been pressed into the shirts when starched. This was a crease running up the chest on both sides aligned with the center of the breast pockets. Matching pleats ran down the back over the shoulder blades with a third pleat down the spine.

Unit shoulder insignia were not worn on the short-sleeve shirt. Branch of service insignia was worn on the left collar and rank insignia was worn on the right (enlisted men wore a US device on a brass disc on the right). A white-on-black plastic name tag was displayed on the right breast pocket flap. Distinctive unit insignia, called "crests," were worn on the shoulder straps. Each aviation battalion had their own distinctive crest. Separate companies did not but instead wore the crest of the command to which they were assigned, usually that of the 1st Aviation Brigade.

The black cushion-sole boot socks were despised. Cushion-sole referred to the sole, toes, and heel being twice as thick as the rest of the sock. These socks



Airmobile infantrymen off-load from a UH-1 slick during a training exercise at Ft Benning, GA, before the 1st Cavalry Division deployed to Vietnam. Yellow cavalry sabers were often painted on the noses of The Cav's choppers. Troop lift was one of the more frequent missions flown by aviators.



Aircrewmembers wearing the two-piece fire-resistant Nomex flight suit, introduced in 1969. It could be worn tucked into the trousers or worn out, but offered more fire protection when tucked in.

copiously shed lint that stuck to the feet and between toes. Soldiers often had to wash clothing of different colors in the same washing machine, and the socks turned white underclothing a dingy grey. In 1966 black socks began to be replaced by olive green. Olive green undershirts, underdrawers, and handkerchiefs were also issued in Vietnam. Previously, when units were alerted for deployment to Vietnam, Rit green dye was bought in local stores and washer drain-water ran green.

The "baseball cap" or "cap, hot-weather, olive green shade 106" was introduced in 1962 and was instantly disliked. Soldiers

complained it made them look like mechanics or garbage men. Its rounded crown was composed of six wedge-shaped segments with the front portion provided with an internal nylon mesh stiffener plus a semi-rigid visor. This prevented the cap from being folded flat and inserted into a pocket when not worn. Soldiers pushed the back portion into the front and then stuffed the visor into the back of the trousers. One had to remember to remove it before taking a seat or dropping one's trousers to sit on a toilet or else the wet cap had to be retrieved from its drowning and explained to one's buddies.

WO candidates wore a brass "W.O.C." on both collars of khakis and fatigues and on the field cap front. On the garrison cap it was worn on the left side 1in. from the front. Primary Flight School was divided into three one-month phases. Preflight students were identified by bare shoulder straps on their khakis and greens, but those in Primary I and II wore 2-in. wide orange cloth loops on their shoulder straps. The next class in line donned orange loops with a 1/4-in. black stripe when the senior class graduated. They now had the right to inflict harassment on the junior classes.



A Warrant Officer Candidate stands before his Ft Rucker wall locker wearing the MA-1 Nomex intermediate flyer's jacket and an APH5 helmet.

Each WOC company wore a different-colored 1½-in. plastic disc on which the W.O.C. device was pinned on the front of their olive green baseball caps. The senior class added a horizontal black bar behind the W.O.C. Later, company-colored baseball caps were used. After soloing pilots sewed an enlarged, stylized black-edged white embroidered version of the aviator wings with a gold "S" on the shield above the disc. WOCs and other aviation students wore a Primary Flight School patch on their left shoulder. Instructors and permanent party added a tab embroidered "Primary Helicopter" over it. The black-on-orange patch depicted a winged torch, irreverently called the "Flying Zippo."

WOCs with prior service continued to wear any special qualification badges (such as jump wings or Ranger tabs) and combat patches. This was not permitted in OCS.

There were other distinctions for non-WOC personnel. Military instructors wore white discs and standardization, and instructor pilots had dark green discs. Commissioned officers undertaking flight training wore medium brown baseball caps with subdued rank insignia. Contracted civilian instructors employed by Southern Airways of Texas wore standard flight suits with the company insignia and wings sewn on. TAC officers were usually CW2s and wore their rank bar on the front of a glossy black helmet liner. TAC NCOs displayed a gold-yellow on moss green decal of their chevrons.

The most common flight suit was the K-2B very lightweight man's flying overalls. This was a light grayish green, non-fire retardant, one-piece cotton suit. They faded considerably with exposure to sunlight and washing. As one former pilot exclaimed, the flight suit "had more zippers than all my pants put together." All pockets were zippered. There were diagonal pocket openings on the breast, a small vertically zippered pocket on the upper left sleeve called the "cigarette pocket" with pen pockets on the outside, a horizontally zipped pocket on the right thigh, a vertically zipped pocket on the left thigh alongside a snap-secured knife pocket, and horizontally zipped pockets above both ankles. There were no front or rear hip pockets. Waist size was adjusted by tabs, and there were vertical zippers in the ankles to allow the suit to be pulled on and off without removing one's boots. The suit was not fire retardant but could be treated with borax to provide a degree of fire resistance. However, it had to be re-treated after washing, and this was seldom done. While made of light cotton, being one-piece it failed to provide the ventilation needed in Vietnam and was still hot. It also had to be almost completely removed for natural functions.

Development of a two-piece, fire-resistant flight suit began in 1967. After encountering problems, it did not reach Vietnam in its final version in any numbers until 1969. This was the olive green shade 106, a very dark shade, hot-weather, fire-resistant flying shirt and trousers. The hip-length shirt could be tucked into the trousers for flame protection, but it was often left hanging free for improved ventilation. On the ground the sleeves were usually worn rolled up above the elbows. When flying they were rolled down. The collar was slightly larger than the K-2B's, and there were Velcro-secured flapped patch pockets on the breasts. On the upper left sleeve was a pocket slotted for pens. The trousers had large Velcroed map pockets with vertical openings on the front of the thighs and smaller pockets on the sides of the calves. The shirt sleeves and trousers cuffs could be tightly closed with Velcro tabs. After about a dozen washings the fabric lost its fire-resistant capabilities because the starch and soap retained in the fabric reduced the suit's fire retardance. For this reason they were infrequently washed and became somewhat gamey.



An air cavalry captain wearing the two-piece flying suit and a black Stetson hat bearing captain bars and armor branch insignia (crossed sabers and tank). Unofficial squadron and troop insignia are worn on the pockets. (Kenneth Henson)



This Warrant Officer Candidate wears the unofficial solo wings on his company-colored cap and the K-2B very lightweight man's flying overalls beside his OH-23D trainer. (Kenneth Henson)

Between missions they were hung in billets to air out, and standard jungle fatigues were usually worn on the ground. Sweat caused the suit to turn a reddish-brown, especially the arms and across the shoulders. The Nomex fabric was really not fire resistant, but it was somewhat fire retardant. The suits could still burn or smolder when exposed to intense flames. The suits of enlisted crewmen, those who did most of the maintenance and refueling, were soon impregnated with oil, grease, and JP-4 fuel, making them more flammable. Sometimes flight suits were not available for door gunners, and so they wore jungle fatigues.

Sew-on insignia was worn on both types of flight suit in about the same manner as on fatigues. It was not uncommon for full-color unofficial battalion/squadron, company/troop, or platoon patches to be worn on the right breast but sometimes elsewhere. The pockets of both types of suit were designed for easy access by a seated man encumbered by body armor and harness straps. Aviators were issued two sets of K-2B overalls, but seldom were two of the two-piece suits available. Shortages were such that aviators had to turn in their suits when departing Vietnam.

Aviators were restricted from wearing tropical combat boots ("jungle boots") because the nylon-reinforced canvas uppers were more prone to catching fire than all-leather boots. Some, especially in air cavalry units, wore tankers' boots. These lacked eyelets and laces and were secured by a wraparound buckled leather strap to be more fire protective. Metal eyelets transferred heat that burned the ankles. Aviators also avoided using lace-in zippers and avoided wearing nylon or other synthetic clothing such as undershirts. Most aviators wore cotton undershirts and shed their underdrawers because they retained sweat, keeping the groin area damp and prone to rashes, the uncomfortable "rot-ya-crotch-off."

Early-issue gloves were soft, dark brown leather. Two-inch longer wrists were later provided, over which the sleeves were pulled for better fire protection. Gray kidskin gloves were also used. The thin leather gloves caused hands to sweat uncomfortably, but without them the hands were still sweaty and further resulted in a slippery grip and possible exposure to flames. Repeated sweat soaking and drying caused the leather to stiffen. Late in the war olive green Nomex gloves with gray leather palms were issued.

EQUIPMENT AND WEAPONS

A critical piece of aviator equipment was the flying helmet or "brain bucket." The full head protection provided several functions. Besides crash impact protection it offered a degree of ballistic protection from small-arms fire and fragments and also provided some relief from the intense aircraft noise. In it was mounted the radio/intercom earphones and boom microphone as well as a brow housing that held a slide-down, heavily tinted visor. Besides sun and glare protection it gave the eyes some relief from small fragments and splintered windshield Plexiglas.

In 1965 the AFH1 crash ballistic protective flying helmet was adopted. It replaced the similar APH5 crash-type flying helmet. The main difference was that the AFH1 was made of laminated, ballistic nylon fabric. It was not until 1967 that the AFH1 began arriving in Vietnam in any numbers. Aviators returning to the States could retain their APH5s, but AFH1s had to be left in-country. The APH5 was normally white, but in Vietnam they were painted olive drab; the AFH1 was issued in olive drab. In 1969 the further improved SPH4 flyer's helmet was adopted, but they would not fully replace the earlier helmets until 1972.

Flying helmets were rather heavy owing to their leather or fire-resistant web liner, sizing pads, earphones, microphone, and retractable visor. New designs could not increase the degree of ballistic protection without increasing the weight. If too heavy it caused fatigue, neck muscle strain, headaches, and neck injuries during a crash. The chin strap was always buckled to prevent the helmet from shifting around and being knocked off in a crash. Besides acoustic, ballistic, and crash protection, helmets even saved aviators from glancing blade and tail rotor strikes. Aircrewmembers often painted their names, slogans, unit insignia, home state flags, and humorous or downright raunchy pictures on their helmets. Decorations ranged from neatly modest to gaudy. Some commanders prohibited helmet markings.

A variety of body armor systems was used by aviators. Regardless of type they were heavy, hot, restricted air and blood circulation, increased fatigue, restricted movement in confined quarters (especially door gunners), and made it more difficult to escape from a crashed aircraft. Armor provided a degree of protection from gunfire and fragments, and in some instances it shielded crewmembers from crash injuries and fire. Body armor could not protect from large-caliber fire such as 12.7mm and even 7.62mm heavy machine gun rounds, but could against lighter rounds such as 7.62mm AK/SKS (smaller cartridge than 7.62mm machine gun rounds), .30 carbine, and 5.56mm. Body armor was made of fiberglass laminates, ballistic nylon, and ceramics. One of the most common was the M1952 nylon body armor vest from the Korean War. In 1964 it was replaced by a similar vest of composite titanium and nylon with a protective collar. However, it could not be used by aviators because the collar interfered with flying helmet movement. The 18.5lb ceramic curved pilot's torso shield, supported by shoulder straps, protected the flyer from groin to collarbone. Some pilots sat on the plate. The small-arms protection aircrewmembers armor that was introduced in 1966 was a vest with pockets containing composite laminated plates commonly called "chicken plates." Improved versions were issued through the war and included pockets on the chest and back in which large additional plates could be inserted. The back plate was often not used owing to the weight, and even the chest plate was deleted. Shin and thigh guards were tested, especially for gunners, but these restricted their movement too much.

Besides bullet hits, aviators also suffered Plexiglas and aircraft fragments as well as small bullet fragments. A serious problem caused by hardened ceramic body armor was that a bullet shattering part of it caused fragments, and the bullet actually ricocheted through the aviator after striking the opposite plate.



The cockpit of this UH-1B gunship shows the 7.62mm machine gun sight for the M16 (4xM60C machine guns, 2x7-tube rocket pods) or M21 (2xM134 miniguns, 2x7- or 19-tube rocket pods) armament subsystem. To the left is the copilot's flexible reflex sight and the pilot's XM60 infinity reflex sight to the right. Note the M16A1 rifles slung on the back of the armored seats.



Gunners sometimes sat on their vests rather than wear them or used a second vest. They also “borrowed” the steel grill plate from field stoves to sit on. Some pilots spread an opened M1952 vest over the lower portion of the helicopter’s bubble nose, although these additional vests reduced the aircraft lift capability and speed. A complete pilot/copilot front plate version weighed almost 16lb while the gunner/crew chief front and back plate version was over 34lb.

All aviators were officially issued a Smith & Wesson Model 10 revolver or a .38 Special Colt Police

A copilot in his left seat. He wears the olive drab APH-5 aviator’s helmet with an M83 boom microphone. (Virtual Vietnam Archive, Gary Shend collection)

Positive. The double-action revolvers had a swing-out six-round cylinder, but for safety reasons the chamber under the hammer was empty. The .38 Special had a full-metal jacket bullet and was also provided with red-tipped tracer rounds for signaling. The cartridge provided poor knockdown power and penetration. It also provided very limited firepower against enemy troops with automatic weapons, and it was slow to reload. For these reasons it was not popular with aviators, and many sought more effective weapons. During World War II, studies showed that aviators often lost the use of an arm or hand through injury while jumping from an aircraft by parachute (either during the exit or upon landing), during a crash landing, or from enemy fire prior to bailing out or crashing. Such an injury may have prevented crewmen from cocking a .45-cal. pistol, which requires a hard pull and two good hands. A revolver can be reloaded and cocked more easily with one useable hand.



EARLY WAR AVIATOR

This example of an Army rotary-wing pilot is typical of the outfits and insignia worn until about 1968. The non-fire retardant K-2B flying suit was standard, and displays full-color embroidered insignia. The 25th Aviation Battalion CW2 (1) wears an APH5 helmet adorned with his name and the wings and lightning bolt from the battalion’s unit crest. The unofficial Company A patch is worn on the right chest. Aviation units organic to divisions wore the parent division’s patch, while all others wore the 1st Aviation Brigade’s. While the front of the flying suit was provided with ample pockets, there were no front, waist, or back pockets (2) as they were unreachable in a sitting position. Names, unit insignia, and other markings were often on the helmet’s back. From 1956 to 1972 WOs were identified by gold bars with brown enamel (WO, CW2) and silver and black (CW3, CW4) bars (3a). Subdued insignia were approved in 1968; brown and green (WO, CW2) and black and green (CW3, CW4) (3b). Both full-color and subdued bars could be metal or embroidered on an olive green backing. The WO “squashed bug” worn on the right collar was provided in both gold and black (4). Brown leather flying gloves (5) – earlier versions had shorter gauntlets. .38 Special Colt and S&W revolvers were standard issue to aircrewmembers; here a S&W Model 10 with a black leather shoulder holster (6) (tan leather issued prior to 1956). The M186 personnel signal kit (7), or “pen flare gun,” contained seven flares; three red, two white, and two green. The M185 kit contained all red. The Air Force survival knife (8) had a 5-in. blade with serrations on the top edge to cut through an aircraft’s aluminum skin. The scabbard had a whetstone pocket. Depending on the type, at least four aeronautic first aid kits (9) were mounted in helicopters by “lift-the-dot” stud and snap fasteners. The canvas or nylon cases measured 3.5x4.5x7in. and contained dressings, compresses, gauze, tape, and burn and eye treatment dressings.

C

3a

3b



4



7



2



1



6



8



5



9

Some chose to carry a .45-cal. Colt M1911A1 pistol or a privately owned pistol or revolver, with 9mm and .357 Magnum being popular. These were passed on or sold when rotating home. The "forty-five," with a seven-round magazine, was unpopular as it was bulky and subject to accidental discharges – not a good thing in a helicopter. Some pilots used the .45 automatic as impromptu body armor. Carrying it in a leather holster on a web pistol belt, they would remove the magazine, pocket it, and turn the belt around the waist, positioning the holstered pistol over their crotch. Most retained a sidearm of some type but sought a more effective shoulder weapon. The standard 5.56mm M16A1 rifle was common. Other weapons that found their way into cockpits were the scarce 5.56mm XM177E2 submachine, a shortened version of the M16; a .30-cal. M2 carbine, a .45-cal. M3A1 submachine gun ("grease gun"), and occasionally a 7.62mm AK-47 or AKM assault rifle, the scarce folding-stock versions being preferred. On occasion M2 carbine barrels were cut down almost to the fore end and the stock was cut off, leaving a pistol grip. The "shorty M2" was notoriously inaccurate, strictly a "pray and spray" weapon. What was desired was a relatively compact weapon that was slung over the seat back or stowed behind the seat.

Aviators understandably felt uncomfortable having hand grenades aboard. For this reason few carried casualty-producing grenades, but they often had a few M18 colored smokes to mark their position if downed and to mark enemy positions for gunships. These were also used to mark ground targets by dropping them from the chopper.

An important piece of equipment issued to pilots was the SRU-21/P survival vest, an adopted Air Force item. Aviators sometimes obtained them from the Air Force, but they were not widely available until 1972. The sage

A UH-1H door gunner awaits the pilot's order to load up for takeoff. Note the "chicken plate" torso armor. They are aboard the USNS *Corpus Christi Bay* (T-ARVH-1), the only floating aircraft depot ship. It was manned by an Army maintenance battalion and a civilian-contract crew. (Leroy "Red" Wilson)



green vest was made of nylon mesh, for air circulation, and nylon fabric panels, on which were mounted ten external and two internal pockets. A knife scabbard and revolver holster, both leather, were sewn on the left rear and left side respectively. Early vests had metal snap-secured pockets and a single strap on the holster. Most, however, had Velcro closures and two holster-securing straps. It was issued in medium and large sizes, the latter being the most common so it could be worn over body armor. (Contents of the vest are described in Plate E.)

Prior to its issue, aircrewmen collected their own survival and signal items. This was according to personal preference, and there was no standardization. Typical items included a sheath or pocket knife, some type of compass (issue lensatic, wrist, or pocket), water purification tablets, a length of parachute suspension line ("550 cord"), a signal mirror (often just a steel shaving mirror), an orange marker panel, a Bic butane lighter, and basic first aid items. Such items as survival radios, strobe lights, and pen flare guns were scarce. More often, commercially available items were used and passed on when the aviator returned home. All too often some aviators carried virtually no survival aids.

CONDITIONS OF SERVICE

Thousands of aviators deployed to Vietnam as individual replacements. After a 30-day leave they reported to either Ft Lewis, WA, or Oakland Army Base, CA, where they underwent a week of administrative processing, received inoculations (they also received some at Ft Rucker or Ft Stewart before departing for leave), and were issued tropical combat uniforms. This included three sets of jungle fatigues, two pairs of tropical combat boots, five sets of olive green undershirts and shorts, and two olive green towels. Aviators hurried to the on-post dry cleaners to have their rank bars, "squashed bug," aviator wings, and name and US Army tapes sewn on at 25 cents per insignia. No unit shoulder patches were sewn on, as they would not find out their assignment until arriving in Vietnam.

The day they departed aboard a contracted Boeing 707 marked the beginning of their 365-day tour of duty. They learned a new word – "de-ros" – meaning Date Eligible for Return from Over Seas (DEROS), the day that marked their last one in Vietnam. As other troops, they were processed through either the 90th Replacement Battalion at Long Binh Army Base if arriving at Ton Son Nhut Airport at Saigon or through the 22d Replacement Battalion if arriving at Cam Ranh Bay. This at least gave them an indication as to what part of Vietnam they might be assigned. If arriving at Cam Ranh they would be assigned to a unit in I or II Corps Tactical Zone (CTZ) in the northern half of the country. Those arriving at Ton Son Nhut would serve in the southern III and IV CTZ. At the replacement battalions they underwent additional administrative processing and briefings.

Since 1961 Army helicopter units were deploying to Vietnam or were raised in-country. In all, some 140 separate aviation companies and troops were

Besides maintaining the helicopter, the crew shield and door gunner maintained the weapons. Here a gunner cleans an M60 machine gun barrel. (Kenneth Upton)



A Huey door gunner mans his 7.62mm M60 machine gun. The sun visor was typically worn in the down position because wind and sun glare could unexpectedly dazzle an aviator as choppers rapidly changed direction while maneuvering.



deployed, along with 16 aviation battalions and five air cavalry squadrons, which contained both organic and attached companies/troops. The battalions and squadrons were deployed between 1963 and 1969. Companies/troops continued to deploy or were raised in-country into 1972. When assigned to a newly activated unit or an existing stateside unit that was alerted and preparing for deployment, the aviator had a much different experience from individual replacements. The unit's helicopters, vehicles, and equipment were shipped to Vietnam, and the troops were flown over.

A new unit arriving in-country faced two major dilemmas regarding its aviators. The new unit was manned entirely by individuals who would rotate home in one year. While some had served in Vietnam previously, most, or at least a large percentage, had no in-country experience. During the course of the unit's first year, some replacements would be assigned for combat casualties, accidental injuries, and the seriously ill, although this would be a relatively small number. Rather than empty a unit of experienced personnel after one year and remanning it with more inexperienced replacements – thereby losing all the leadership familiar with the area of operations and local procedures and aspects – a unit would be partly restaffed upon arrival. Approximately half of the unit's leadership, aviators, maintenance personnel, and other troops would be reassigned to in-country units, which would give up a like number of personnel to be reassigned to the new unit. This gave the

D

PREFLIGHT INSPECTION OF AN AH-1G COBRA GUNSHIP

Helicopter preflight was essential. There were simply too many systems and instrument settings to leave to chance. Many procedures had to be completed in a prescribed sequence. If the crew was the last to fly the bird the day before preflight might take 15–20 minutes. If another crew had flown it they would closely check the logbook and double-check anything that had been written up. This required 20–45 minutes. If the bird was in from a major repair or overhaul, preflight could take an hour or more. Here the crew of a Bell AH-1G Huey Cobra check their aircraft's exterior, looking for leaks. Points receiving particular attention were the tail rotor, external stores, engine and transmission mounts, hydraulic servos, swash plate, push-pull tubes and their rod end bearings, main rotor hub, and the main rotor retaining nut ("Jesus nut"). The crew chief loads the last 2.75-in. rocket and will take the 7.62mm minigun ammunition can with him when he leaves the revetment, built of double-walled 2x12ft AM2 landing mats filled with sandbags. The crewmen wear the two-piece Nomex flight suit with subdued insignia. This being an air cavalry unit, it was not uncommon for black Stetsons to be worn. The pilot also wears tankers' boots.



D

new unit the necessary expertise and experience to operate effectively in Vietnam. This of course disrupted unit cohesion and operating efficiency to a degree, and many individuals were displeased to be switched from "their" unit to a "strange" new one with a different chain-of-command. In practice all units involved in the shift of personnel between them would settle down and return to routine in a matter of weeks. Overall it was not as disruptive as one might imagine.

If assigned to a divisional aviation unit, individual replacements underwent a two-week acclimatization and orientation program in the replacement training school. This included aviators. Individual replacement aviators assigned to a unit were assigned a copilot's seat regardless of their rank to fly with an experienced pilot. Even captains, majors, and lieutenant colonels who would command or serve on the unit staff would be assigned to an experienced WO or lieutenant pilot to learn radio and tactical procedures, the terrain, local weather conditions, local airfields and landing zones (LZ), air traffic control procedures, traffic patterns, and much more. The nuances of tactics differed somewhat between units, and these had to be learned as well. Pilots would accomplish 25 flying hours on administrative missions such as nontactical troops lifts, resupply runs, and routine supporting flights to become familiar with the area and local procedures.

Stateside, most helicopters were flown by the "pilot" and "copilot," but in Vietnam different terminology was used. In unit tables of organization and equipment (TO&E), they were listed simply as "helicopter pilots" regardless of which seat they occupied. In Vietnam, however, there was another rating, that of "aircraft commander (AC)," and it was designated on unit orders. The requirements for this rating varied between units but typically demanded 150–200 hours of in-country flying time, three to four months operational flying experience, knowledge of the unit standard operating procedures (SOP), combat experience in all types of unit missions, and knowledge of its area of operations: pilots had to pick up "airsense." Commissioned pilots were usually required to obtain the aircraft commander rating before being assigned as section and platoon commanders. For this reason CW2s were often found actually leading sections and platoons as lieutenants were gaining the requisite flight time and experience to take over. The AC normally occupied the left seat



Typical base quarters for enlisted crewmen consisted of wood-frame barracks with steel bunks and mosquito nets. Latrine and washrooms were in separate buildings.
(Kenneth Upton)

and the pilot the right. Among WOs the copilot could easily outrank the pilot by rank or time in grade. The assignment of seats was purely based on experience. It might take from one to three months for a newly assigned aviator to gain sufficient experience to be rated a pilot.

Aircraft commander was a much-desired rating but was seldom achieved by company XO's and battalion commanders and rated aviator staff officers. Their duties simply prohibited them from gaining sufficient seat time. The command pilot distinction was lost when an aviator left Vietnam, and he would have to begin the process anew if again deployed, as the skills were necessarily unit and area specific.

All helicopter pilots were qualified to fly the Huey. They could get a checkout for different models including gunships within their unit and transitions for observation helicopters such as the OH-6A. It was a different matter for the Cobra gunship. Transition training was conducted either at Hunter Army Airfield in Alabama prior to deploying to Vietnam or from the New Equipment Training Team at Vung Tau southeast of Saigon. The CH-47 Transition Course was conducted at Ft Rucker.

Commissioned officer aviators typically flew for about six months and were then reassigned to staff and support positions. They logged very little if any flying time in such positions. This system is sometimes criticized as giving commissioned officers some kind of "soft" duty and protecting them from the hazards of combat for at least part of their tour. While the practice may have done this, it was valid in that it gave officers broader experience in field command and staff duties, as they would go on to higher staffs and to command units. It was invaluable experience for career development.

A brief discussion of the organization of aviation units is necessary to better understand the functioning of these units. Aviation battalions were organized into a headquarters and headquarters company (HHC) with battalion headquarters, communications, medical, maintenance and supply sections, and an air traffic control platoon. Some types of battalion had three or four organic aviation companies designated Companies A-D. Most consisted only of a battalion HHC with three to six attached numbered separate aviation companies of different types. These are far too numerous to address here but are discussed in detail in Osprey's *Vietnam Airmobile Warfare Tactics* (Elite 154). Depending on the type of company, there could be two to four platoons, which were usually divided into two or three sections, typically with four aircraft, five in air cavalry units. Companies were commanded by majors, platoons by captains, and sections by lieutenants. Companies also had a service platoon with aircraft maintenance and aircraft service sections. Air cavalry squadrons had a headquarters and headquarters troop and three air cavalry troops.

Divisions had a combat aviation battalion while the 1st Cavalry and 101st Airborne Divisions, both airmobile divisions, had three battalions, an air cavalry squadron, and some separate aviation companies. Nondivisional aviation units were all assigned to the 1st Aviation Brigade since May 1966. Commanded by a major general, this division-level command numbered over 4,200 aircraft and 14,000 troops.



A typical metal wall locker, containing a merger set of uniforms, toilet articles, pictures from home, and stocked with snack foods. (Kenneth Upton)

Even in a combat zone customary practices were maintained, such as weekend barbeques with steaks, baked beans, and baked potatoes. (Kenneth Upton)





An aviation unit's well-sandbagged tactical operations center. Over the right end of the TOC can be seen the airfield traffic control tower.

Besides the two pilots, UH-1 Huey series helicopters were crewed by an SP5 crew chief with MOS 67N, Utility Helicopter Repairer. This was a 12-week maintenance MOS, and he was responsible for the aircraft's upkeep. He worked alongside the company and battalion maintenance personnel to keep his bird flying. He also served as a door gunner. The table of organization did not provide for a second door gunner. These were provided by augmentation personnel; infantry volunteers either from in-country units or on six-month temporary duty tours from the States or Hawaii. Door gunners considered their job

relatively safe, at least safer than a grunt breaking brush in the boondocks day after day, and the gunner usually enjoyed real food and a bunk at night. The crew chief and gunner "stuck" to their aircraft, and the pilots were assigned to aircraft on a daily basis. This was normally done within the platoon, so even if the pilots did not always fly with the same enlisted crew, they flew with them frequently. The door gunner cleaned and maintained the machine guns, usually including the crew chief's, as he spent a great deal of time working on the bird. When finished with the guns and arming up on ammunition, he was usually pressed into cleaning the helicopter and helping out with maintenance. Many gunners applied for or undertook crew chief on-the-job training.

Besides preventive and scheduled maintenance, the enlisted crew took pains to keep the bird clean inside and out. Troops dirtied up the cargo compartment with mud, vegetation debris, ration packaging, soft drink cans, occasionally blood, and even left-behind live ordnance. The interior and fuselage were kept clean, which included wiping off rainwater and dew to better detect fuel, lubricant, transmission, and hydraulic leaks.

E

LATE-WAR AVIATOR

The olive green shade 106 hot weather fire-resistant flying suit began arriving in Vietnam in 1968 (1/2). The two-piece suit could be worn tucked into the trousers or left out. The pocket arrangement was much different than the K-2B's, the results of lessons learned. A metal clip was commonly inserted in the left thigh pocket to hold a folded map. This CW2 wears the new SPH4 flyer's helmet and leather direct-molded sole combat boots (3). Subdued insignia was in use by now. The 1st Aviation Brigade patch (4) was worn by all nondivision aviation units from May 1966. In July 1972 new WO rank insignia were initiated, making it easier to identify the different grades with all being silver and black (5a). Subdued WO rank was green and black (5b). Many aviators carried the .45-cal. M1911A1 Colt pistol in the M7 shoulder holster (6). The holster could be rigged around the waist. Fire-resistant Nomex flying gloves (7) were issued with the new flying suit. The Operator's and Crew Member's Check List was contained in a plastic-covered three-ring binder (8). The A/P255-5A personal distress signal kit (9) was issued as a component of the SRU-21/P vest. The larger red flares could better penetrate foliage. The SRU-21/P survival vest (10) saw limited issue late in the war. Its contents included: S&W .38 Special Model 10 revolver, 17x ball rounds, 6x tracer rounds, Air Force survival knife, pocket knife, tropical survival kit, emergency radio (ARC-RT-10, AN/PRC-90, AN/URC-64 or -68), A/P255-5A personal distress signal kit, SDU-5/E strobe light and flash guard, Mk 3 signal mirror, whistle, 2x chemical light sticks, Mk 13 Mod 0 handheld smoke/flare signal, lensatic compass, magnesium fire starter, matches in waterproof container, pen flashlight, 3-pt (1.4 liters) water bladder, gill net, tourniquet, emergency blanket, insect repellent, snake bite kit, insect sting kit, chap stick, camouflage stick, and survival manual. Aviators might modify the contents. The MA-1 Nomex intermediate flyer's jacket (11) had a reversible international orange lining to aid rescue. Even in Vietnam, especially in the mountains, aviators sometimes experienced cold air.

E

5a



5b



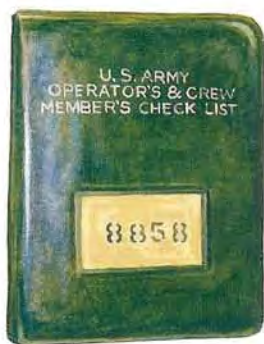
4



6



9



8



1

2



3



10



7



11

Scout helicopters in air cavalry units were usually the OH-6A and were assigned only one pilot, a crew chief, and a sergeant scout observer (11D, Cavalry Scout). In practice, OH-6A crew chiefs were responsible for up to four aircraft due to personnel shortages, table of organization and equipment ("TO&E") restrictions, and the bird's less complex systems. In other than air cavalry units, light helicopters used as observation and utility birds (OH-13, OH-23, OH-6A, OH-58) were authorized two pilots, but often only one was available, and the crew chief did not always fly as the other three seats were needed for passengers. Since scout/observation birds had only one pilot, it was not uncommon for the pilots to give the observer enough unofficial flight time to learn how to land the bird if he was wounded. It was not uncommon for crew chiefs to be taught to give the engines test run-ups, strictly on an unofficial basis. Huey gunships were manned by two pilots, the crew chief, and a gunner who kept the weapons firing. The left-seater operated the machine guns and 40mm weapons while the right-seater fired the rockets. AH-1H Cobra gunships were manned by only two pilots, with the front seater operating the chin turret and the backseater the wing stores. Cobra crew chiefs, MOS 67Y, Attack Helicopter Repairer, did not fly. CH-47 Chinooks also had two pilots, but these were an SP6 flight engineer and an SP5 crew chief, both MOS 67U, Medium Helicopter Repairer. They too manned door guns.

WOs and officers did not socialize much with their enlisted crewmen. Fraternization was officially frowned on. Scout pilots and their crew chiefs and observers tended to be a bit tighter as they worked closely as a two- or three-man team. Popular pilots were sometimes invited to enlisted quarters for parties, and they would make an appearance but not become "one of the boys." Some commanders prohibited, or at least limited, such socialization.

The life of an aviator in Vietnam was much different from that experienced by an infantryman. Most nondivisional aviation units operated regionally, based on the comparatively secure larger installations. Units might be subjected to an occasional rocket or mortar attack. Scores, even hundreds, of helicopters and their extensive maintenance facilities were seen at these bases. Since they did not relocate frequently, the accommodations were usually reasonable. They lived in one- or two-story temporary wooden barracks with bunks, mattresses, and mosquito nets, or at least aluminum folding cots with a nylon bed and an air mattress with a mosquito net hung over it. A camouflaged poncho liner served as bed linen and blanket. Often two-man rooms were available. However, in some units tents were common and were often worn out, resulting in leaks during the rainy season. Ponchos and shelter halves had to be stretched over cots, but everything stayed damp. The bases were notoriously dusty in the dry season, and the dust permeated everything. During the monsoon season the dust was replaced by glutinous mud. "Hooch [barrack] maids" cleaned the quarters, laundered uniforms, and generally tidied up. They were hands-off sexually, but that did not keep some girls from freelancing. Local boys made a good living polishing boots. For a lucky few, there were latrines, showers, and washrooms (sometimes with hot water), which were in separate buildings. There were mess halls serving rations little different from those served in stateside messes.

The larger bases boasted officers' clubs (O clubs), with live entertainment (contracted Vietnamese and Australian musical groups) and serving alcoholic drinks. WOs could frequent officers' clubs. They more frequently gathered in the small clubs cobbled together in a hooch by their company or battalion. They were less under the eye of outsider officers in their own territory.

The flyers tended to stay together and did not socialize with the rear echelon motherf*ckers (REMFs), the support personnel. There were outdoor and even sometimes indoor movie theaters, Armed Forces Television Network showing old TV shows, USO shows, a PX, recreational activities, and medical and dental clinics.

Most warrants serving in Vietnam were WO1s and CW2s. WO1s were promoted after one year, but it required seven years as a CW2 before reaching CW3; in other words, one had to extend beyond the obligated six years. There might be one or two CW3s a battalion, and CW4s were virtually unheard of. Long-serving CW3s and CW4s were more frequently found in National Guard units. A WO1 with less than two years' service drew \$336.60 base pay while a CW2 with over two years was paid \$436.80. A CW3 with over four years drew \$512.70. Beyond that, every two years CWs received an approximately \$20–35 per month pay raise. Warrants were paid a monthly \$47.88 Basic Subsistence Allowance ("ration pay"). WOs and commissioned officers paid for their own rations except when in a combat zone. They also received Basic Quarters Allowance. If single, a WO1 received \$85.20 monthly and \$110.10 if married. There was an approximate \$10 increase per CW grade. In Vietnam, \$16 Overseas Allowance, \$30 Family Separation Allowance if married, and \$65 Hostile Fire Pay ("combat pay") were disbursed in addition to Flight Pay.

BELIEF AND BELONGING

Many helicopter pilots were thrill seekers to some degree. They liked fast cars and a fast life. To "party hardy" was a common term to describe their lifestyle. They loved to fly, and the war gave them the opportunity to do that – a lot. They were little concerned with the politics of the war and the conflicts back home, and they couldn't care less about the drug culture, the sexual revolution, saving the environment, and other social issues. Pilots were not politically indoctrinated by the Army, and their personal convictions regarding the war covered just as broad a spectrum as other Americans. Of course most supported the war effort; they had a stake in it.

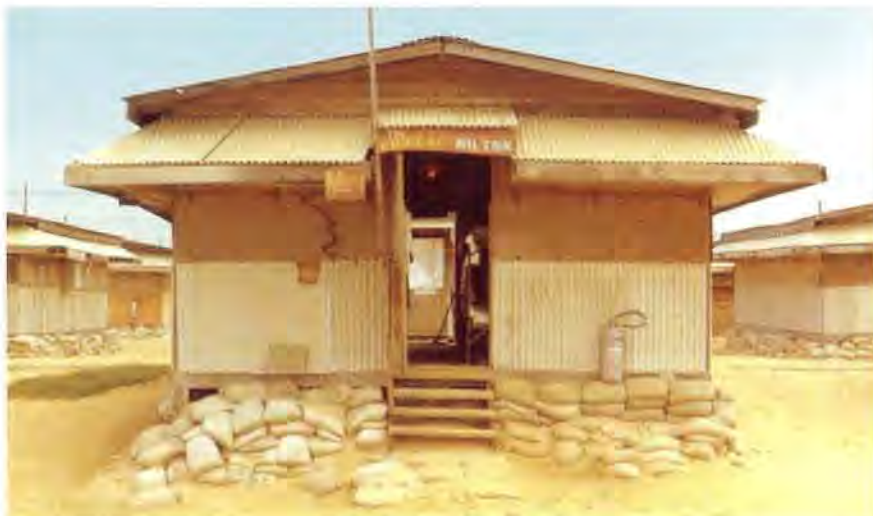
With the war's drawdown and the departure of American units beginning in 1969, most aviation units did not suffer as much from the growing pressures of the antiwar movement, deteriorating race relations, and the increasing use of drugs as many other units, especially support units. The avoidance of excessive drinking and drugs came with the territory. It was insane to fly even after drinking a small amount or doing drugs, and officers, pilots, and aircrewmembers were on the lookout for such. There were instances when crewmen refused to fly with a pilot suspected of being inebriated, and they reported him. Aviation units were usually self-policing in this area. They were having fun flying. A common aviator's idiom was, "Who needs drugs, I'm already high."

Piloting was a stressful job. Besides the long hours and intense concentration required for flying, it was done in a combat environment. One always had to be alert to enemy threats, weather hazards, a constantly changing tactical situation,

Helicopters experienced a great deal of down time for repairs, routine maintenance, inspections, and scheduled parts replacement. Here aviation mechanics work on a Huey Cobra.



Hooches, the soldier's name for their simple barracks, were built of wood and corrugated steel. These have plywood panels that could be raised for ventilation and lowered when it rained.



the terrain, location, and other aircraft. When not flying, there were other concerns. Pilots often lived in poor-to-marginal quarters. There were alerts and rocket and mortar attacks. All hands spent a great deal of time preparing aircraft for operations, inspecting, maintaining, arming, and fueling them. Many of the warrants and officers had additional company duties to perform other than just flying, including routine day-to-day administrative duties such as perimeter defense, laundry, unit fund, mess, or morale officer responsibilities.

Regardless of what they thought of the war, pilots were true believers in the concept of Army aviation and believed they could do just about anything. Shelby Stanton describes them in *Rise and Fall of an American Army* as, "Full of zeal, and bold to the point of recklessness, young and unmarried, they became the best helicopter pilots in the business." Pilots were not shy to boast the Army Aviation motto, "Above the Best."

Aviators tended to be highly decorated, and justifiably so. They of course earned the three "I was there ribbons" that everyone received: National Defense Service Medal, Vietnam Service Medal, and Vietnam Campaign Medal (a Vietnamese decoration). They generally received a Bronze Star Medal for service and job performance. Medals for valor (from lowest to highest grade) were the Army Commendation Medal, Air Medal, Bronze Star Medal, Distinguished Flying Cross, Silver Star, Distinguished Service Cross, and Medal of Honor. The first three could be awarded for outstanding service and duty or for valor, in which case a bronze "V" device was affixed to the ribbon.

The Air Medal was also bestowed in recognition of the accumulation of flight hours in a combat zone. Additional awards of the Air Medal were identified by bronze oak leaf clusters, but so many flying hours were being accumulated that in September 1968 numbers were affixed instead. Aircrewmembers and non-aircrewmembers alike could log their flying hours, turn them in, and be credited for Air Medals. For every 24 hours of flying time, one Air Medal was authorized. Rather than logging actual

Next to the tin-roofed barracks were heavily constructed sandbag bunkers for protection from mortar and rocket attacks. The bunker roofs were excellent sunbathing spots. (Kenneth Upton)



flying hours, a formula was used to simplify things. Regardless of the actual mission duration, missions were credited:

Administrative, VIP flights	¼ hour
Visual recon, resupply, etc.	½ hour
Combat assaults, extractions	one hour

It was not unusual for aircrewmembers to accumulate around 1,000–1,100 hours in a one-year tour and wear a “40” or higher number on their Air Medal ribbon.

In regard to the young WO flyers, what the Army got was not what it had originally envisioned. Rather than “officer-like” career professionals with an outlook similar to commissioned officers, the Army found itself with thousands of very young, flamboyant, near reckless, gutsy men with an enlisted man’s outlook infesting their officers’ clubs. To make it worse, the Army could not live without the warrant helicopter pilots. The Army was as reliant on helicopters as it was “deuce-and-a-half” trucks and “one-oh-five” howitzers. The young pilots were proud of their accomplishment of making it through the challenges of flight school, training that many commissioned officers were not qualified for. They possessed the boldness of youth, a nonacceptance of their mortality, and the confidence and lack of prudence that comes with inexperience. They were gutsy to a fault, frequently demonstrated true bravery, and possessed the pride to not even think about turning down a mission.

Their attitude was more akin to that of a short-service enlisted man. Few had any intention of making the Army a career. They would do their six years and be on their way to a college degree, courtesy of the GI Bill, to start a



View of a typical larger base for a brigade or division on which many aviation units were stationed. Newly arrived officers would recommend that a machine gun be positioned atop water towers. That only attracted fire, making holes in the tower.

Flight pay

Flight pay, or what was officially called Aviation Crewmember Monthly Incentive Pay, varied depending on one’s rank and time in service. It is interesting that it is considered incentive pay rather than hazardous duty pay as is “parachute pay” (which was the same scale as Submarine Duty Pay). The following is the flight pay for captains, lieutenants, warrant officers, specialists 5 and 4, and privates first class (the usual ranks of crew chiefs and door gunners). As can be seen, the time in-service increases for flight pay varied between ranks. Beginning with eight years service, it jumped \$10 every two years. This scale was in effect from 1963 to 1975.

Rank	Under 2	Over 2	Over 3	Over 4	Over 6
CPT	145		155	165	180
1LT	115	125	150	160	
2LT	100	105	135	140	
CW4	115			120	
CW3	110	115		120	
CW2	105	110		115	
WO1	100	105		110	
SP5	60	70	80	85	
SP4	55	65	70	75	
PFC		55		60 (expected to make SP4 by year four)	

WO rank abbreviations and pay grades can be confusing. All Army rank abbreviations were limited to three letters/numbers. Pay grade, which is standardized between all the armed services, is identified by a single letter followed by a one-digit number: E=enlisted, W=warrant officers, and O=commissioned officers. It was not uncommon to see chief warrant officer 2 abbreviated as CWO2 rather than the official CW2.

Rank	Pay grade
CW4	W4
CW3	W3
CW2	W2
WO1	W1

family and new career. One tended to be lax about uniforms and grooming and strove to obtain a reputation as a "wild and crazy guy." They were not cowed by threats of an indiscretion or infraction of the rules going into their 201 File (their official military personnel file) as a "career killer." They were just as likely to distrust authority as an enlisted man, especially of those officers who were "obviously trying to get them killed" and who were less than familiar with the capabilities and limitations of helicopters. They felt a closer identity to the grunts and wounded they carried than to the officers over them. That was readily seen in the mutual respect the flyboys and grunts had for one another.

ON CAMPAIGN

The life of an aviator varied depending on the type of unit he was assigned to. Regardless of the scale of operations, it was at the aviation company level that the real work, the flying, was done.

The real workhorses were the assault helicopter companies, designated aviation Company (airmobile) (Light) companies prior to July 1966. A company was authorized 23 UH-1D/H slicks and eight UH-1C gunships. "Lift" companies organic to assault helicopter battalions lacked the gunship platoon as these were concentrated in the battalion's Company D. Besides conducting combat assaults, the signature helicopter operation of Vietnam, they were true multipurpose units. They lifted troops, supplies, and equipment from one base to another; shifted units in the field to insert them into new areas of operation or to pursue disengaging enemy forces; picked up units in the field; resupplied units in the field with rations, water, and ammunition; recovered the dead, conducted medical evacuation (MEDEVAC) flights when dedicated MEDEVAC birds were unavailable or too few; flew command and control missions; conducted visual reconnaissance; inserted and extracted reconnaissance teams; and flew countless "ash and trash" or "pony express" flights. These flights ran the gauntlet of delivering mail and movies, transferring men from one site to another, picking up and returning soldiers from R&R, and transporting liaison officers or VIPs, among other responsibilities. Such a daily mission might see the chopper making the rounds of the three battalion firebases of a brigade, after first visiting the brigade base. The pony express would return to the brigade base around noon to refuel and lunch, drop off passengers needing to visit the brigade, and then repeat the rounds in the afternoon. The unit's gunships – "guns" – escorted the slicks, providing preparatory fire on LZs ("prep fire" or "prepping"). Though not intended to provide fire support or scout, they sometimes did just that. MEDEVAC or "Dust-off" birds were flown by Medical Service Corps pilots and had a reputation for going in to extract casualties no matter how bad the ground fire was.

Aerial weapons companies (AWCs) and rocket artillery batteries both had 12 gunships. AWCs provided close fire support, escorted troop lifts, and prepped LZs. The aerial rocket artillery (ARA) were substitutes for field artillery, providing area fire support. They usually did not get in close and personal because they were armed only with rocket pods and lacked the fixed machine guns and chin-mounted automatic grenade launchers of the "real gunships."

Assault support helicopter companies – designated medium helicopter companies prior to July 1966 – were equipped with 16 CH-47s, and two



Hazards of the profession.
A wounded aviator is awarded
the Distinguished Flying Cross,
which is pinned to his arm
sling. (Leroy "Red" Wilson)

observation choppers. They lifted artillery, light vehicles, bulk supplies, and ammunition and construction materials to fire bases and other locations. They also lifted follow-on troops into secured LZs.

Air cavalry troops had an aero scout platoon with scout chopper, an aerial weapons platoon with gunships, and an aero rifle platoon with four squads of infantrymen and its own lift ships.

Divisional general support aviation companies performed many duties including VIP transport, general utility and liaison flights, and command and control (C&C) flights. The brigade aviation sections with six observation choppers did the same and sometimes were consolidated in the general support company. While there were dedicated C&C birds with radio consoles and built-in map boards, any helicopter might be assigned the mission. While operations were under way, battalion, brigade, and even division commanders would be observing overhead, coordinating ground units, aircraft, fire support, close air support by "fast-movers" (jet fighter-bombers), and providing "useful advice" to company commanders on the ground. The C&C mission was rather unpopular with pilots. Besides simply orbiting an area high out of small-arms range, they had to put up with the "backseat" driving of commanders and staff officers who had unrealistic expectations and a poor understanding of the capabilities and limitations of aviation operations. These commanders and staff officers wanted to stay airborne continuously and often failed to plan forward to refuel during lulls, resulting in the pilot retorting (at least to himself), "You can't drink water and piss JP-4." Infantry battalion commanders would eventually learn, but higher staffs often never did, with the exception of those in airmobile divisions. Adding to the unpopularity of the C&C mission was that the choppers were often overloaded with radios and staff passengers, making them cumbersome to fly.

There was a pecking order of different levels of prestige between aviation units. Of course the perception of that order was viewed differently depending upon the unit. The air cav units were the most flamboyant, often sporting black cavalry Stetson hats and some even wearing yellow gauntlet gloves and riding spurs, although seldom on missions. Due to the nature of their missions these units took many risks. They worked as fire teams; light fire teams having one

gunship and scout each and heavy fire teams having two gunships and a scout. They provided close fire support to units in contact and would scout just feet off the ground down among trees searching for footprints. Most air cavalrymen were volunteers. Aerial weapons units, the gunships, were among the upper crust, attracting the most aggressive pilots, and after the arrival of the Cobra, those questing for speed. Others preferred gunships as they could more effectively shoot back than in a slick. In the lift units, many competed for assignment to the company's gunship platoon or the battalion's gunship company. This required experience and demonstrated skill. The ARA batteries, while employing gunships, were considered by some to be a step below the aerial weapons units. Chinook pilots were viewed as truck drivers, but theirs was a job that should not be discounted. It was a difficult helicopter to operate in high temperatures, in low altitudes, and in confined areas, especially when carrying heavy loads. Sling-loaded cargo beneath the chopper offered its own challenges with balance, securing loads, turbulence, and reduced maneuverability if taken under fire.

Operational planning was done at battalion level, and the companies were tasked with missions depending on the availability of aircraft. Ground units submitted their requests for aviation support the previous afternoon, and aviation unit staffs approved/rejected, assigned, and planned the missions overnight. Aviation units were issued a Fragmentary Order (FRAGO) outlining all missions assigned to it that day. The FRAGO included the supported unit's designation, radio call sign, frequencies, type of mission, number of troops, pickup zone, landing zone, pickup and insertion times, and other details.

The tasked units allocated their available aircraft to each mission, worked out a time schedule, assigned crews to aircraft, and worked out other details such as how many lifts would be required to insert the unit and identifying

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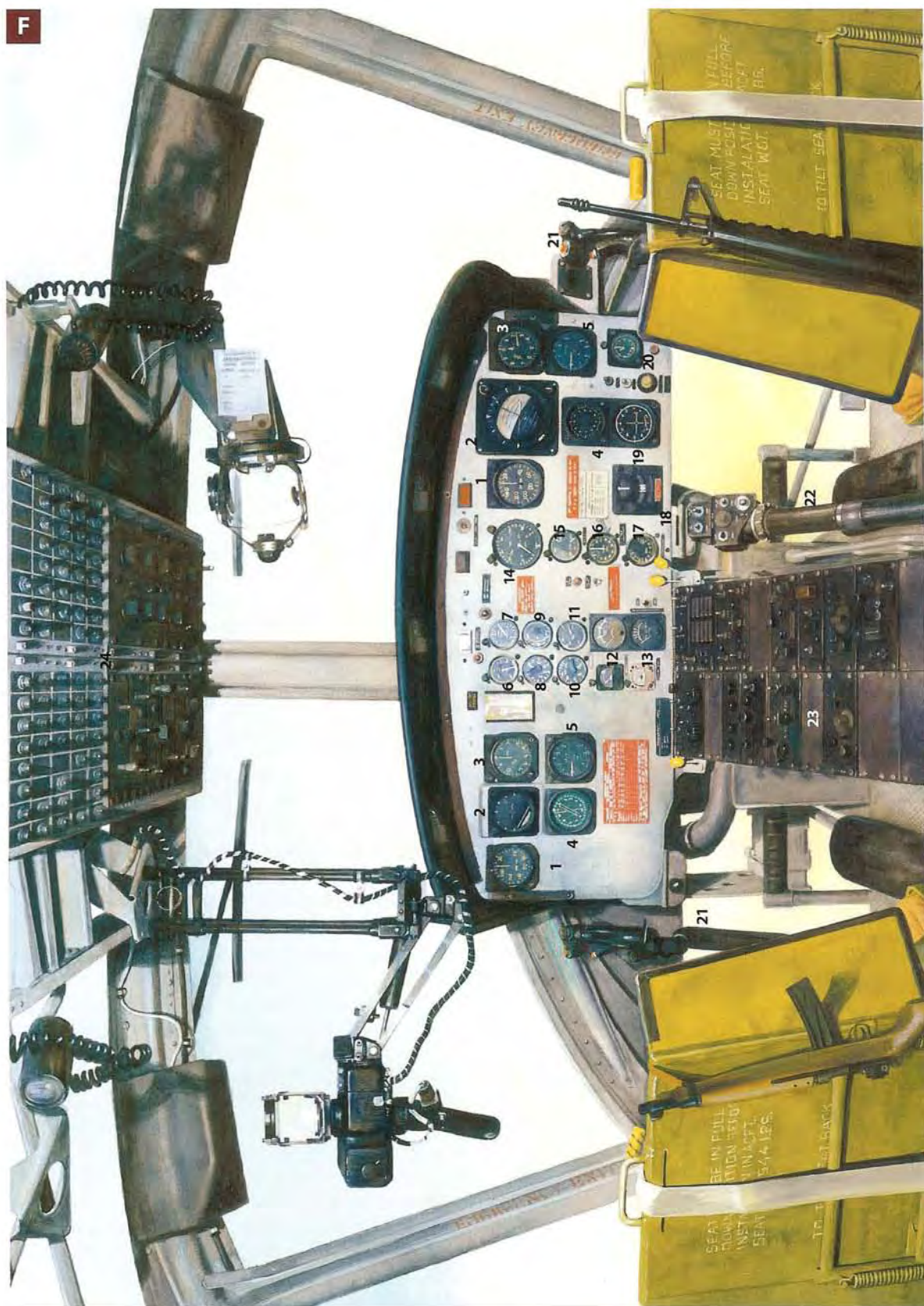
UH-1B HUEY GUNSHIP INSTRUMENT PANEL

This Bell UH-1B/C/M Huey Hog gunship instrument panel is typical of all later Hueys, although there were slight differences and some additional instruments in later models. The pilot or aircraft commander occupied the right seat and the copilot the left. They shared many instruments, but had one each of the most important. The center console mounts radio and avionics controls. Folded up in the stowed position to the upper left is an M21 armament subsystem sighting and trigger controls and to the upper right an XM60 reflex sight.

- | | | |
|---------------------------------|------------------------------|--|
| 1. Airspeed | 9. Transmission oil pressure | 18. Turn & slip indicator |
| 2. Attitude indicator | 10. Engine oil temperature | 19. Glide slope |
| 3. Altimeter | 11. Engine oil pressure | 20. Clock |
| 4. Gyrocompass | 12. Main generator | 21. Control stick |
| 5. Vertical speed | 13. Standby generator | 22. Throttle & collective |
| 6. Fuel pressure | 14. Dual tachometer | 23. Radio & avionics console |
| 7. Fuel quality | 15. Torque | 24. Fuse receptacles & lighting controls |
| 8. Transmission oil temperature | 16. NI turbine | |
| | 17. Exhaust gas temperature | |

Armored seat kits were installed in Hueys early on, but in 1965 the Mod IV hard face composite armor kit was introduced. The 544lb seats protected pilots from small-arms fire from below, from the back, and from the side, with a sliding panel providing additional protection on the outboard side. The outboard panels could be slid to the rear to allow exiting through the side doors. A wounded pilot could be extracted from his seat by pulling a red release handle, allowing the seat back to tip back and the pilot to be pulled out through the troop compartment.

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Strictly unofficial, the black Stetson was worn by many air cavalry units. An M7 shoulder holster rigged as a belt holster can be seen by this crew chief's right hand. (Kenneth Upton)

The CH-47A Chinook medium cargo helicopter was the "2 1/2-ton truck" of the helicopter fleet, and was used to carry heavy equipment and supplies as well as troops. Here a "Shithook" delivers a 105mm M102 howitzer to a firebase.



refueling points. Aircraft carried only 2–2½ hours' worth of fuel, often less to save weight so as to increase the number of passengers carried. The flight time from the unit's base to the PZ (pick-up zone), the PZ to the LZ and return, the number of lifts required, and the flight time to and from the refuel point, which might be at a firebase or some other installation closer to the LZ than the PZ, all had to be calculated when planning the mission and fuel load.

"Blade time" was a key factor in the availability of aircraft. Blade time was carefully logged by the crew chief and was the basis of determining allowable flight time. Every 25 hours a general inspection was required, along with specified preventive maintenance measures. At 100 hours a major inspection was conducted. Inspections and maintenance took an aircraft off the flight line for several days. It was normal for a unit to have only 60–70 percent of its aircraft, or 14–16 out of 23 slicks in an assault helicopter company, available for missions at any given time. Temperamental Chinook units usually had only 50 percent available. In theory a helicopter required a major depot overhaul after 1,100 hours, but Vietnam was brutal owing to the dust, sand, ingested vegetation debris, harsh climate, heat, and humidity. Engine dust filters had to be cleaned daily, or there would be a noticeable loss of power. Rotor blades took an especially hard beating, and their life was greatly reduced (a pair of Huey blades cost almost \$13,000). Flying sand and dust eroded the leading edges, and long hours bearing heavy loads wore them out at much higher rates than were considered the norm. The life of oil and hydraulic seals was also severely shortened. The company maintenance officer closely monitored blade, engine, and transmission hours. He would temporarily ground some flyable birds as others neared their scheduled downtime so that enough aircraft would be available for later missions.

Enemy ground fire was a constant threat. Armor was limited due to the necessity of flying as light as possible in order to carry more troops. Only the pilots' seats were armored (bottom, back, and outboard side), and the engine compressor was partly armored. The transmission and tail rotor gearbox were not armored, nor were the fuel tanks self-sealing. The aircraft fuselage offered no protection. A man could punch a screwdriver through the aluminum skin. The best way to avoid fire was to fly above effective small-arms range at 1,000–1,500ft or to fly low and fast at treetop level. Atop the trees a helicopter is in view of a machine gunner on the ground for brief seconds. Treetop flight had its own hazards from difficult-to-detect obstructions. The greatest vulnerability was when a helicopter was transitioning from forward flight to landing, on the ground off-loading troops, and taking off. The Soviet/Chinese-made 12.7mm machine gun firing armor-piercing incendiary ammunition was particularly dangerous to helicopters. RPG-2 and RPG-7 rocket-propelled grenades were also directed at helicopters. There was a very real hazard of "hot LZs" in which choppers would find themselves caught in deadly high-volume cross fires. Crashes were survivable, but aircrews suffered relatively high casualties. Enemy action was not the only cause for concern. Of the 4,642 US helicopters lost in Vietnam, over half were to nonhostile causes such as accidents, mechanical failure, and weather. A total of 564 Army helicopter pilots were killed in action and 362 died in nonhostile incidents. Those figures are roughly doubled for other aircrewmembers.

Aviators had to deal with long flying hours in a less-than-pleasant climate, heat, humidity, dust, rapidly changing weather, spare parts shortages, and spotty maintenance. Quickly maneuvering, jinking helicopters created spatial disorientation with sudden complete changes in vision aspects. The rotor, transmission, and anti-torque system high- and low-frequency sounds inside the open compartments were destructive to hearing. Toxic engine exhaust fumes gushed through crew compartments.



EXPERIENCE IN BATTLE

The conduct of a mission could be quite routine. The pickup and insertion locations changed, but overall the day-to-day missions were much the same. As often as not, not a single shot was fired during a mission. On the other hand there could be terrifying moments, but these were usually of relatively brief duration. There was the occasional day or even several consecutive days when major ground engagements broke out, and helicopters crew put in long hours shuttling troops, dropping off ammunition, and being pressed into medical evacuation service. More often, however, it was merely "follow the leader."

The day began early. The duty orderly would make the rounds of the officer and enlisted hooches, waking up the crews between 0400 and 0500hrs. Duty crews would "shit, shower, and shave" and then head off to breakfast for eggs to order – powdered, but maybe even fresh – bacon or sausage, and pancakes or toast with coffee, orange juice, and milk – a reconstituted milk called "filled milk" that had a slightly sour aftertaste.

Pilot and bird assignments were posted on a chalkboard. The enlisted men were readying the choppers with the ground crews, a short process because they had already fueled and armed up the previous evening. At this point the enlisted crews did not know who they would be flying with. Carrying their helmets in nylon carrying bags with their maps, signal operating instructions (SOI), and log books, the pilots gathered in the ops building, bunker, or tent. The mission briefing might run from 15 minutes to two hours, usually closer to the former. The company operations officer had been up much of the night with his NCO, coordinating the supported infantry units. A map of the area of operations (AO) was posted on an A-frame easel. There might also be a pictomap, a full-color aerial photograph overprinted with gridlines and man-made features (roads, bridges, villages, etc.) as on standard maps, or a black-and-white aerial photograph mosaic giving a more up-to-date picture of the area. Most crews were sufficiently familiar with the AO if they had been in Vietnam even two to three months.

The ops officer, usually a 1st lieutenant or CW2, presented the fruits of his labor in a no-nonsense manner. It was little different from any other briefing, and routine details were standard operating procedure (SOP). These standard operating procedures may not have been codified in a written document. In theory every Army unit was supposed to have a written SOP. Few did, especially in Vietnam. Routine procedures were constantly being modified, new officers had their own preferences in the way things were done, and

A Huey "slick" approaches an LZ with the troops poised to off-load as quickly as possible. Pilots would not take off with a man remaining in the chopper, but they wanted the troops out fast. They were quite accommodating, while not wanting to remain in a "bullet magnet" any longer than necessary.



Ground crewmen prepare a machine-gun flexible ammunition chute for loading aboard a UH-1B gunship. the door gun is a 7.62mm M60D..

specific mission requirements demanded changes. Written SOPs were not flexible enough, and there simply was no time to write them. When a higher headquarters asked for a unit's SOP, the normal response was, "It's being revised, Sir."

Pickup time and location, LZ coordinates, number of lifts, refuel and rearm locations, radio call signs, primary and alternate frequencies, and other details were provided, with the information jotted down in small green notebooks and acetate-covered maps anointed with grease pencils. Aviation, infantry, and artillery unit call signs seldom changed. A pilot serving in a given unit and

then returning to it on a second tour a year and a half later would find that the same call signs were still in effect. Radio frequencies changed monthly however.

The pilots walked to the flight line, found their assigned aircraft in their protected revetments, and met with the enlisted crew for a few minutes, ensuring all was ready. The enlisted men did not need to know much, and for the most part they were unconcerned. They were simply passengers and knew what to do. The pilots did a quick walk-around and boarded to begin their preflight check. This was one area where shortcuts were not taken. Pilots ran through the prescribed preflight checklist with care, confirming that all was a go.

Seldom was a full fuel load carried, with the amount depending on the operation's range and density altitude (DA). DA was an important factor to consider in Vietnam. Air density changes significantly with altitude: density drops as altitude increases. Humidity and temperature also affect air density. Hot, humid air is less dense than cooler air. High heat and humidity in Vietnam greatly reduced troop capacity. Heavily loaded helicopters had difficulty hovering over the hot jungles. It was even worse over firebases and sun-baked rice paddies because the large expanses of bare ground reflected more heat. DA had to be calculated and adjusted through the day as the temperature rose to determine the number of troops that could be carried.

A section or platoon commander might be placed in charge of the mission. While ostensibly a commissioned officer, owing to shortages a more experienced WO might be in charge. For larger operations the company commander often led the mission, something the aircrews respected. Regardless of section and platoon organization, missions were actually organized into "flights," unofficially but more commonly called "lifts," of two or more aircraft, the number of aircraft being that which could land on the LZ at once. A "serial" was two or more flights. If an LZ could accept four birds, and the aviation company provided eight helicopters to insert a rifle company, it would be organized in two lifts (flights) of four birds each. Four lifts might be required to insert a rifle company, with each aircraft making two lifts for a total of 16 sorties, or individual aircraft flights.

Radio checks were made, frequencies and call signs were marked on the windshield with grease pencil, and on command the engines were cranked up, as gauges were checked and it was confirmed that the compass was correct. The helicopters would lift off the ground a few feet and hover into position, lining up on the runway. The flight leader contacted the control tower for permission to take off. When cleared, the flight made its takeoff run down the runways just as a fixed-wing aircraft – helicopters used the same takeoff and landing patterns as fixed-wing aircraft.



After making the takeoff run down the runway and out of the airfield's traffic pattern, the flight would assume its prescribed formation. This would usually be a trail (column) formation if they were flying to another airfield to pick up the unit to be lifted. If the PZ was a clearing, the helicopters would form up in the formation set suited for its size and shape: an arrowhead, a diamond, echeloned (staggered 45 degrees right or left of line of flight), or a staggered trail. Any escorting gunships flew to the flanks.

Pilots carried little with them. Their helmet bag and shoulder weapon, if they had one, were stowed behind the seat. A 2-gallon thermos or some canteens of chilled water might be carried. A meal or two of C-rations or long-range patrol (LRP) rations might be carried for lunch, or if the day's demands of missions saw them operating later than normal. Crew chiefs tended to be pack rats, with a kit bag stuffed under their seat with rations, packs of

ABOVE LEFT The crew chief and gunner often helped the pilots "buckle up" as they squirmed into their cramped seats. The copilot wears an SPH-4 aviator's helmet. It was common for unit insignia to be painted on the nose of Hueys. (Virtual Vietnam Archive)

ABOVE RIGHT These UH-1 Huey pilots rev their slick after completing the preflight checklist. As the engine was run up, all gauges were monitored. The upper portion of the nose was usually painted matt black to reduce glare. (Virtual Vietnam Archive, Curtis Knapp collection)

Army Helicopters

The Army used a number of helicopter models in Vietnam, with improved designs being fielded over the years. Besides being bestowed the names of Native American tribes as official nicknames, helicopters were often given other unofficial nicknames. The years of introduction provided below represent a chopper's fielding in Vietnam and do not mean that all helicopters were replaced by new models at the same time. Older models could remain in use for a year or two.

- The first helicopter deployed to Vietnam was the Boeing Vertol CH-21B and C Shawnee cargo helicopters known as the "Flying Banana" or "Hog Two-One." It was replaced by the Bell UH-1-series in 1963-64.
- The first heavy-lift helicopter was the Sikorsky CH-37B Mojave cargo helicopter. It was replaced by the CH-47A and CH-54A by 1965.
- Bell UH-1B Iroquois utility helicopters began arriving in 1963, and the Huey would become the most widely used chopper in Vietnam. Seeing some use for troop lift, the B was mainly used as a gunship and utility/liaison.
- The UH-1C, known as the "Hog," was introduced in 1965, and was much used as a gunship and aerial rocket artillery.
- The UH-1D was introduced in 1963 with a stretched body to carry more troops. Troop-lift birds became known as "slicks," because they lacked the gunships' side-mounted armament array, or as "school buses."
- The UH-1H was fielded in late 1967 as a more powerful version of the D.
- The Bell AH-1G Huey Cobra (the exception of not being named after a Native American tribe) began to replace Huey Hogs in 1967, but Hogs remained in use until 1971.
- The Bell OH-13G/H/S Sioux and the similar Hiller OH-23G Raven were used as observation, scout, and liaison helicopters from the beginning until they began to be replaced by the OH-6A.
- The Hughes OH-6A Cayuse appeared in late 1968. It was known as the "Loach," derived from "light observation helicopter" (LOH), or because of the shape of its fuselage and tail boom; an "egg with a hard-on."
- The Bell OH-58A Kiowa began replacing the OH-6A in 1969 but were not as widely used.
- The twin-rotor Boeing Vertol CH-47A Chinook, called the "Shithook" or "Forty-Seven," was introduced in 1965, followed by the CH-47B in 1967 and the CH-47C in 1968. These were medium cargo helicopters.
- The Sikorsky CH-54A Tarhe or "Flying Crane" heavy lift helicopter appeared in 1965.

While this scenario took place in a Marine UH-34D Seahorse helicopter, it demonstrates the risks aviators in Vietnam faced. The crew chief shouts instructions to another crewman while the pilot lies on the deck dying. (Time Life/Getty Images)



cigarettes, souvenirs scrounged off grunts, tools, cans of hydraulic fluid and oil, and a flashlight. Smoke grenades to mark enemy positions for gunships were hung by their arming levers on machine gun mounts. Crew chiefs/gunners would pass opened rations and water up to the pilots when needed.

On the ground the infantrymen had already broken down into lifts and individual aircraft loads, called "chalks," so named as to the lift and aircraft numbers that used to be marked on helmets. Chalk also identified the aircraft's position in formation. The choppers arrived early enough to allow face-to-face coordination between the aircrews and grunts. As all infantry units were experienced in airmobile operations and they had most likely previously worked with one another, coordination was quick and informal: confirming the location of the LZ, the direction in which they would land, support artillery and aerial fires, direction the artillery fire would be arriving from so as to avoid

that area, confirmation of the number of passengers and lifts, and other factors. Changes from the initial briefing were to be expected. The AD had to be considered, and this might mean a reshuffling of troops if planned loads had to be reduced. It was also determined when the choppers would have to depart to refuel and what the estimated time of return would be.

The crew chief, assisted by the gunner, would see to embarking the passengers, the PAX. They too were experienced and knew what to do. The troop doors were locked open (often they were removed altogether) and the troops seated. The nylon and aluminum tubing seats were often removed to allow troops to board and exit faster. This also made it easier to accommodate the cumbersome rucksacks and other gear burdening the infantrymen, and it further provided more room for cargo. Crewmen were a little concerned when carrying grunts because they were festooned with grenades, Claymore mines, demolitions, pop-up (handheld pyrotechnic ground signals) and trip flares, and had loaded weapons. The grunts were directed to remove their magazines, eject the round in the chamber, and carry the weapons muzzle down. M79 grenade launchers were to have empty chambers and were left broken open. Troops sat on the floor still wearing their rucks and unsecured by seat belts, their legs hanging out the doors. They were reminded not to fire from inside the chopper if receiving ground fire or if the door gunners opened up. It was too easy to hit another helicopter or even one's own men inside a lunging chopper.

At the appointed time the now heavily loaded flight would take off down the PZ runway and head toward the LZ. Usually flights were only 15–40 minutes. The artillery would commence the prep fires around the LZ. The last rounds would be WP (white phosphorus), signaling the ceasefire, and the gunships would roll in, peppering the tree line. Normally the gunships would not expend rockets unless receiving ground fire.

Often helicopters could not tell if they were under fire. It was pure chance that they might see muzzle flashes or even see any tracers, if they were being used. Other helicopters might detect the fire and warn the bird receiving it, but more often they did not know until bullets started making solid hits or other heart-stopping sounds were rendered.



The passengers' view from the "tail end Charlie" of a flight of Huey "slicks" inbound to a landing zone. The initial approach would be made high to avoid anti-aircraft fire, but the final approach would come in low and fast just above treetop level.

Although hot LZs were not too common, there were other dangers. The landing choppers were relatively close together so that the infantrymen would not be too scattered out. They landed near the tree line, close to any enemy concealed in the vegetation, so that the infantry would suffer minimal exposure before reaching cover. Of course the tight formation made a more tempting and easier target. The real danger was what might lie on the ground. LZs might be dry rice paddies or level fields covered with short grass, but more often they were covered with 2–6ft high elephant grass or brush. Beneath this could be floodwater, deep mud, boulders, stumps and fallen tree trunks, gullies, ditches, rice paddy dykes, landmines, or grenades rigged to tripwires. If the pilot did not have a clear view of the ground, he would hover low and stable for the troops to drop onto whatever was there. Efforts to burn off elephant grass caused problems as everything was charred black, making it impossible to see any obstructions. Additionally, the black soot and ash could blind landing choppers. In especially dusty and sandy areas, the resulting “brownout” created zero visibility and complete disorientation.

The grunts, using their parlance, would “un-ass the bird” as fast as possible. They knew that they were most exposed in a hovering or sitting chopper and knew the pilot was not going to give them more than a few seconds to exit. Generally, unit SOP was that if one man had off-loaded and fire was received, then everybody went. The grunts would dart for the nearest cover and quickly assemble. If other lifts were to follow, they would land within 15–30 seconds of the first. The troops would move out to secure the area to await the follow-on lifts.

Often the lift choppers would need to refuel before picking up their next load. The gunships also had to refuel because they usually carried less fuel than the slicks due to their heavy ammunition loads. They might also have to rearm, and the refueled slicks would have to wait on them. The site for the refuel/rearm point might be different from the aviation unit’s base or the PZ.

The pilot’s compartment was hot, as the sun beating on the windshield and overhead canopy drove up the temperature. The pilots might open a side window and stick an arm out to let the slipstream funnel up a sleeve to ventilate their suits. Cobra pilots did not have this luxury. The Cobra canopy was completely sealed and exposed to the sun. The cockpit was not air conditioned, and it could easily reach 120°F (48.9°C) inside. Cobra pilots often shunned underwear and chose jungle fatigues because they were cooler than flight suits.

At the refuel airfield the choppers would be directed to the refuel pad and a “hot refuel” would be conducted; that is, with the engines still running. The crew chief would drag the hose to the chopper from the earth berm-protected black 500-gallon JP-4 rubber fuel bladder, called a “blivet” or “elephant turd.”

G

HOT LZ

A hot LZ under intense fire was every aviator’s and grunt’s nightmare. If downed, door gunners dismounted their M60D machine guns and used them as ground guns. It had twin spade grips and double thumb triggers. The bipod was retained on the gun to allow its use as a ground gun, but lacking a shoulder stock it was awkward to handle. M60C fixed machine guns on gunships and scout choppers could be dismounted and used as a handheld gun. Crewmen would carry a trigger grip assembly to replace the solenoid trigger and an asbestos glove, normally used for changing barrels, to hold it as it had no barrel guard. When a wounded bird had to be abandoned, it was stripped of weapons, ammunition, radios and avionics (in the nose compartment), first aid kits, maps, and SOIs. If at all possible the hulk would be helicopter-lifted out to be rebuilt or cannibalized for scarce parts and to deny the enemy propaganda photo opportunities.





A lift of four Hueys approach a PZ to pick-up their troop loads. the "chalks," the troops assigned to each bird, are formed up to immediately board during a "hot on-load" with engines running.

He would first open a receptacle and reel out a ground cable that was clipped to a grounding rod to discharge static electricity. The fuel filler cap was on the right rear of the main body of the helicopter. This also happened to be an area that was not affected by rotor wash, making it an excellent spot to relieve oneself while refueling. There was usually a latrine located at the refuel pad or at least a clump of bushes for crew in need to scramble to.

The refueled birds would lift off and return to the PZ to pick up the next lift, which would quickly board during what was called an "engine-running on-load or "hot on-load," and they were off again, making fastest possible time back to the LZ. The element already on the ground was vulnerable to attack and awaiting the arrival of the follow-on lifts. If the chance of enemy contact was high, some gunships might orbit on station to provide fire support. Due to their limited fuel load the covering gunship flight would be different from the ones escorting the lift ships. Air cav scouts would be scouring the surrounding area for signs of enemy movement. A C&C chopper orbiting overhead would be coordinating this. Often the LZ was merely a drop-off point for the infantry, and they went on their way and the LZ was left vacant. At other times it might provide a base of operations, especially if there were few other suitable LZs in the area that the infantry would be moving through. In this case the LZ would be used to deliver ammunition, rations, and water; serve as a site to MEDEVAC casualties from; and secure a site for delivering reinforcements. The LZ might become a fire support base with an artillery battery supporting the infantry. It might be there for a few days or even weeks.

Once the infantry was on the ground the choppers might be released back to their unit's control, and that might have been the end of their day. More than likely, however they would be assigned other missions, which could include delivering ammunition and supplies to other units, shuttling troops about, resupplying firebases and other installations, and delivering or hauling out construction materials from a closing firebase, among other tasks. The flight, however, might remain under the ground battalion commander's control, leapfrogging platoons about, conducting odd jobs, and making resupply runs. They would deliver troops and ammunition under fire, but an under-fire extraction was avoided if possible.

In some instances helicopters would night linger, or "remain over night" (RON), at a firebase. Crewmen would find a place to sleep, sometimes racking out in their choppers. They scrounged up meals on the base; breakfast and dinner were often hot B-rations. If nothing else, the grunts readily shared C-rations with them.

Daily flying itself was almost routine. There were of course high risks from enemy action, changing weather, mechanical failure, and pilot error. Weather conditions such as fog, haze, rain, and high winds took their toll. Night missions

were flown only in the direst necessity. Night vision goggles were still on the drawing board, and by necessity the instrument panels had to be lit, which destroyed night vision. Few airfields had night navigation aids or even runway lights. Flying in Vietnam's northern mountains and valleys was especially dangerous owing to unexpected crosswinds, downdrafts, fog, low clouds, and loss of radio navigation signals in the valleys.

In most areas navigation using landmarks and maps or pictomaps was fairly easy with good visibility. There were sufficient towns and roads to guide on, and after a couple of months operating in an area, pilots became readily familiar with it. For multi-aircraft missions the flight leader did the navigating, and everyone else simply followed the leader. Flying a helicopter requires constant attention, and awareness had to be maintained of what was happening around it at all times, the instruments had to be constantly scanned, and close attention had to be paid to radio and intercom traffic. Flying at over 1,000ft it was easy to pick up transmissions from US and Vietnamese units on the same frequencies many miles away, and sometimes Vietnamese commercial FM stations drowned out military traffic. At the same time a crew might not be able to contact a unit on the ground below them. Alternate frequencies might be used, but often they simply took the unauthorized expedient of dropping or raising the frequency 5 or 10 megahertz, signaled by "Drop a nickel" or "Pick up a dime," meaning "drop 5 MHz" or "go up 10 MHz." The crew chief and gunner continuously scanned the ground for signs of enemy fire.

Determining the location of an element on the ground could be challenging. Units in the jungle or in dense brush and bamboo, unable to see even nearby landmarks visible from the air, could not always precisely locate themselves. Maps too were sometimes inaccurate. To mark their location on the ground, troops might use international orange marker panels, signal mirrors, and colored smoke grenades. Pop-ups, handheld rocket-projected pyrotechnic ("pyro") ground signals, could be used in daylight (colored smoke streamers) or at night (white, amber, red, and green parachute stars or star clusters). Pen flare projectors and strobe lights were also used at night. Blue filters were sometimes placed on strobe lights as they looked like muzzle flashes without. Tracers were also used day and night to indicate enemy positions.

The main means of marking ground positions was M18 colored smoke grenades. Green was not too effective in most areas due to the vivid vegetation, but in areas of dried vegetation they might be used. Red was restricted for warning of danger or to signal that a unit was in contact. This left yellow and violet, which contrasted well with most vegetation, although yellow was ill-suited in dried vegetation and heavy blowing dust. At dusk and dawn, lighting conditions and haze made it difficult to identify specific colors.

Standard procedure for identifying and confirming colored smoke prevented the enemy from popping grenades of the same color. The ground

Infantrymen rush to board Hueys as they extract them from a PZ to be flown a short distance for reinsertion on another LZ for saturation patrols. Extraction was almost as dangerous as insertion, and the choppers would be on the ground only for seconds. (NARA)





Viewed over the muzzle of an M60D machine gun, Vietnamese troops who survived a Huey crash are pulling out other survivors. Miraculously, no one was killed. (Kenneth Upton)

element would not inform the aviators what color of smoke it was igniting but instead would say, "Identify smoke" or "Popping smoke." Once the aviator detected the smoke he would report what color he saw. This prevented the enemy, if monitoring the radio, from popping the same color if the ground element had notified the aviator what color it was using. In a further effort to fool the enemy, fruit names were sometimes used, such as lemon for yellow, grape for violet, lime for green, and cherry for red.

There were limits on the monthly flight time in order to not wear out pilots. Pilots were usually limited to no more than 100 hours per month. It was less in some units, especially in the mountainous north where fatigue could more easily lead to fatal errors. Pilots displaying too much stress or fatigue might be given less stressful assignments for a while, such as pony express and other noncombat missions. Such jobs were rotated among pilots to give them a break from combat missions. If pilots were accumulating too many hours for the month, they might be given a three- or four-day break and possibly assist the ops officer. Enlisted crewmen had no flight hour limitations.

AFTERMATH OF BATTLE

With DEROS approaching, pilots might be pulled from flying four to seven days before their departure. Some were pulled out earlier to begin out-processing



BACK TO THE REAL WORLD

One year – 365 days – after departing the States, the "real world," DEROS was fast approaching. The "short" aviator has flown his last in-country mission and is out-processing, which translates to ensuring that the unit admin people had his records up to date, his log book closed out, and he had paid up his tabs in the O-club, mess, and laundry. There was gear and a weapon to turn in, souvenirs to collect up, and farewells to be made. This was accomplished in the garishly and tackily decorated unit club where he bought rounds of drinks for his buddies remaining behind; a good way to rid himself of Military Payment Certificates and Vietnamese piasters. The more popular brands of beer were not always available. Beer shipped to Vietnam came only in steel cans lacking the new ring tabs. Bottled brew meant Vietnamese beers such as Ba Moui Ba ("33") or was something faintly remembered from the States.





A Navy UH-1B gunship of Helicopter Attack Squadron (Light) 3 escorts river patrol boats. The Marines, Air Force, and Navy used limited numbers of Hueys, and the pilots and mechanics were trained by the Army.

for their return to the “real world” as they sometimes became a little twitchy. Short-timers were often shifted to support missions rather than combat. Farewell parties were thrown in the unit club; medals, plaques, and letters of appreciation were presented; and heartfelt goodbyes and handshakes were given to the unit staff, other pilots, enlisted crewmen with whom the pilot had flown, and ground crewmen who had kept him flying. The pilot

received orders for his next station, but he was not told what his job would be. He would find that out when reporting in after completing his leave. With few fully manned aviation units outside of Vietnam, there was not much of a chance to land a “real” flying assignment. Many found themselves as instructor pilots at Wolters, Rucker, or Stewart, or as platform instructors covering academics or, worse still, as a TAC hassling WOCs. A pilot’s life had suddenly become mundane. Many aviators were separated from the Army under the reduction-in-force (RIF). With the war winding down, scores of aviation units were being inactivated in-country. When at one time the Army went through stages of aviator shortages, they now could not be demobilized fast enough.

From 1970–71 CWs having completed a tour in Vietnam with good Officer Efficiency Reports could apply for a direct commission to 1LT. Few did. Others applied for OCS. The Army still lacked sufficient commissioned aviators. With the post-Vietnam drawdown from 1972 and lacking full college degrees, they were among the first to be RIFed. CWs too were RIFed. Some went into the National Guard.

Many completed college by benefit of the GI Bill and went on with less exciting lives. The widespread use of helicopters in Vietnam led to their increased use in the civilian world. Most former aviators never flew again, but some became civilian helicopter instructors in a growing market or went on to acquire fixed-wing aircraft pilot licenses. Numerous airline and airfreight pilots got their start flying Army helicopters. Some flew helicopters for government agencies, business corporations, firefighting services, offshore oil rig companies, television stations, police departments, petroleum pipeline inspection, and life flight services.

With the withdrawal of US forces from Vietnam, Army aviation units around the world were now supplied with helicopters, pilots, and maintenance personnel. The helicopter was firmly entrenched in the force structure, doctrine, and tactics. Army Aviation became a branch in 1983. Few of the types of helicopter used in Vietnam are still in use by the Army, but the aviators are much the same and carry on traditions in the spirit of those bold young men of some 40 years ago. They still bear the motto “Above the best.”

COLLECTIONS AND MUSEUMS

The collecting of Vietnam uniforms, insignia, equipment, and memorabilia has become an increasingly popular pursuit. Collectors have found that actual Vietnam War items are becoming scarcer and more costly. There is wide interest among collectors in aviation insignia and related items, although they are cautioned that there are many fake Vietnam-era aviation insignia being marketed, especially in online auctions.

Ft Rucker is the Army Aviation Center where all flight training has been consolidated since 1973. The Army Aviation Museum is also located there, offering excellent collections of aviators' uniforms, insignia, and equipment along with approximately 140 fixed- and rotary-wing aircraft used by the Army.

Ft Wolters, where aspiring aviators undertook primary training for 17 years, is now a Texas National Guard training site, an industrial park, and home of a state prison pre-release facility – appropriately the old WOC area. Standing at the Mineral Wells Holiday Inn is an inverted “V” of two helicopter blades bearing a plaque that reads, “Under these rotor blades passed the finest helicopter students in the world. July 1, 1956–August 16, 1973.”

Today, veteran pilots are represented by the active Vietnam Helicopter Pilots Association. Their website is vhpa.org. Crewmembers are represented by the Vietnam Helicopter Crew Members Association, with their website at vhcma.org.

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A CH-47A Chinook lands in swirls of dust to pick-up troops for a follow-on airlift into a previously secured LZ. The blast from the two engine exhausts over the rear opening was so hot that troops had to take a deep breath and charge on board.



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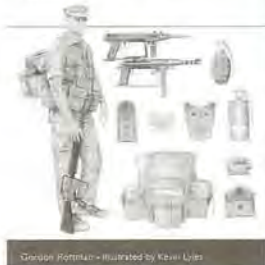
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