



Huey Turns 60: A Retrospective Review of the UH-1's Remarkable Military Service By Paul J. Fardink

The world's most prolific helicopter, Bell's Huey made its first hover flight in Fort Worth, Texas on the afternoon of Oct. 20, 1956. Tragically, company founder and president Lawrence D. Bell did not witness this historic event — he died that same day at 62 years of age. "At precisely the moment Floyd [Carlson] landed, we were notified that Larry had just died," recalled Bell's senior engineer Bart Kelley. "It was, I felt, a fitting tribute to a man who had done so much to pioneer the helicopter."

Called the Model 204 by Bell Aircraft, it first flew as the Army's XH-40 and stretched slightly as the YH-40; it was then given the military designation of HU-1 — from which it derived its "Huey" nickname — and then redesignated as the UH-1 Iroquois, and modified to the stretched Model 205, the 212 Twin, numerous commercial models and today's Venom (not to mention the Model 209 HueyCobra, Super Cobra and Viper). But it will forever be known as the iconic "Huey," with many versions having been produced around the world.

With the 60th anniversary of Huey's first flight approaching, a retrospective look at this incredible helicopter is warranted.

In response to a US Army call for proposals (with Air Force support) for a medical evacuation/utility helicopter, Bell Aircraft submitted its design and was selected for the contract over 20 other companies in early 1955. All four branches of the US Armed Forces, as well as numerous international forces, would use the Huey extensively.

Workers prepare to load the original and last remaining XH-40 prototype helicopter, the precursor to the UH-1 Huey, onto a truck for transport on June 15, 2015, as they prepare it for restoration for display in the US Army Aviation Museum at Fort Rucker, Alabama. (US Army photo)

While the Huey did see civilian use (models 204 and 205), the helicopter predominately was used for military service. Though designed as a utility helicopter, so much emphasis was placed on the aeromedical evaluation function that Bell's winning proposal initially referred to the Huey as a "helicopter ambulance." This emphasis carried forward when the first Hueys arrived in Vietnam in early 1962 with the 57th Medical Detachment, a medevac unit. They brought with them five UH-1A helicopters.

Without question, the Vietnam War solidified the long-term marriage of the UH-1 and Army aviation. The Huey became known worldwide as the iconic workhorse of that highly visible conflict. The Vietnam Helicopter Pilots Association's (VHPA) detailed records of helicopter deployment and usage during the Vietnam War indicated that Bell built 10,005 Hueys from 1957 through 1975. Prior to 1957, there were three XH-40 prototypes and six YH-40 test helicopters manufactured. Of the 10,005 production Hueys, 9,216 went to the Army, 79 went to the Air Force, 42 went to the Navy, and 127 went to the Marine Corps. The rest went to other countries.

During the height of the Vietnam conflict, Bell was producing more than 100 Hueys per month. The VHPA's records further indicated that 7,013 Hueys served during the



Hueys in production during the Vietnam War. (Bell photo)

Vietnam War and almost all were Army. That service's UH-1s totaled an incredible 7,531,955 flight hours during the War from October 1966 through 1975. It is no wonder that many historians refer to the Vietnam War as the "Helicopter War."

But as amazing as these statistics are, there is another number that bears tribute to the brave crewmen who flew the Huey in Vietnam. A total of 11 Huey pilots and crewmen would be awarded the Medal of Honor: one from the Marine Corps, one from the Air Force and nine from the Army.

After the Vietnam War, the Huey continued to earn its combat stripes in Grenada (1983), Panama (1989), and Operations Desert Shield and Desert Storm (1990-1991). As Lt Col Reininger, the Army's weapon system manager for the UH-1 in 1992, noted, "During the nine month desert operation, over 400 UH-1H/V aircraft performed a variety of missions. While flying over 31,000 hours, the fully mission capable rate remained stable at the 70% level. These figures represent over 20% of the helicopters in the theater and 21% of the flying hours. These are impressive statistics for an old war horse."

Following the 1991 Gulf War, the Army inventory of UH-1s exceeded 2,800 aircraft assigned to units throughout the United States and overseas, with 389 UH-1V Hueys representing 76% of the Army's medevac aircraft. The Huey flying hour program was more than 30% of the Army's total. Reininger went on to say, "The UH-1 has become Army Aviation's standard for 'Best Value.' Over the past 33 years, the UH-1 has flown 25 million hours in support of military and humanitarian operations. It is simple to operate, and dependable. This is a combination that is tough to beat. The UH-1 Iroquois is the 'heartbeat' of the Army helicopter fleet."

But this "heartbeat" was coming to an end. In October 1992, the US Army Aviation Branch Commander, Maj Gen James D. Robinson, spoke of plans to trim the active Army inventory from 8,900 aircraft to fewer than 5,000 and to concentrate on the OH-58 Kiowa Warrior, AH-64 Apache, UH-60 Black Hawk, re-modernized CH-47 Chinook and RAH-66 Comanche: "Notice I didn't say Huey. Huey may be okay for some other folks, but ... if we go into a big modernization program for the Huey

and keep it with 'US Army' on the tail boom; we'll take the last Black Hawk to the boneyard and come home in a Huey."

It would take another 20 years before the Army could put the Huey into "official" retirement at the end of fiscal year 2012. With 51 Hueys still operating as late as 2011, most would be replaced by the twin-engine UH-72A Lakota utility helicopter.

But the US Marine Corps has kept the Huey in military service. While having a total procurement of only 192 single-engine UH-1E helicopters during most of the Vietnam War, both the Navy and Marine Corps began accepting deliveries of the twin-engine UH-1N from 1971 through 1979. After its procurement of 205 UH-1Ns and six VH-1N executive transport helicopters, the Marine Corps eventually retired the helicopter after 43 years of service in 2014, replacing it with the UH-1Y Venom.

The UH-1Y is the most technologically sophisticated upgrade ever made to the battle-proven Huey. It features a four-bladed, all-composite, ballistically tolerant (up to 23 mm) rotor system. It has upgraded engines (two General Electric T700-GE-401C turboshaft engines) and transmissions, integrated digital cockpits featuring multifunction flat panel displays and 85% common parts with the AH-1Z. Deliveries began in 2008 with an expected purchase of approximately 160 helicopters with full operational capability projected for 2021.

The US Air Force used the single-engine UH-1F in Vietnam, but would begin accepting delivery of the twin-engine UH-1N in 1970, leading to the total replacement of the F model by the early 1980s. The Air Force also procured an HH-1N version as a base rescue helicopter. Now, in 2016, 62 vintage UH-1Ns guard intercontinental ballistic missile sites in Montana, Wyoming and North Dakota, while others provide VIP support in the Washington, DC area, as well as other types of mission



This photo of the "Blues" Platoon of B Troop, 1st Squadron, 9th Cavalry, near Chu Lai, Vietnam in 1967 is an iconic photo of the "Helicopter War." (US Army photo)



The US Marine Corps UH-1Y "Venom." (Bell photo)

After a long and glorious career filled with a plethora of contributions to military aviation, it's been time for this workhorse to retire, but circumstances just won't let it. Tomorrow, as the sun rises somewhere in the world, a Huey will take flight. Vietnam Huey pilot and author Layne Heath said it best: "The beat of Huey blades still brings the hair up on my arms and along my neck, and my eyes turn skyward and watch until nothing is left to see. When the craft is gone, the image remains, trailing all the endless images that will forever be the Huey."

About the Author

Paul Fardink is a retired US Army Lieutenant Colonel who enjoys researching and writing about Army aviation history. Rated as an Army Aviator in both helicopters and fixed wing aircraft, he earned a Bachelor of Science degree from the United States Military Academy at West Point, New York, and later a Master of Science degree in Aeronautical Engineering from the Naval Postgraduate School in Monterey, California. He has more than 1,000 hours in the Huey and is a graduate of the Army's UH-1 Maintenance Test Pilot Course. He is a frequent author at the Annual Forum Proceedings and for *Vertiflite*.



Note: An extensive listing of references and endnotes is available upon request.

support. In mid-May, the Air Force declared that it would move forward with a "full-and-open competition" for total replacement of the entire UH-1N fleet.

Of the more than 16,000 Hueys produced, many are still flying. Thousands have been sold to more than 45 US allies, or transferred to other federal, state or local agencies for homeland-security, law-enforcement or emergency-response duties. Over the past decade, the restoration and upgrading of this rotorcraft, especially the Huey II Modernization Program powered by the Honeywell T53-L-703 engine, has become an important line of work for Bell and other contractors.

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