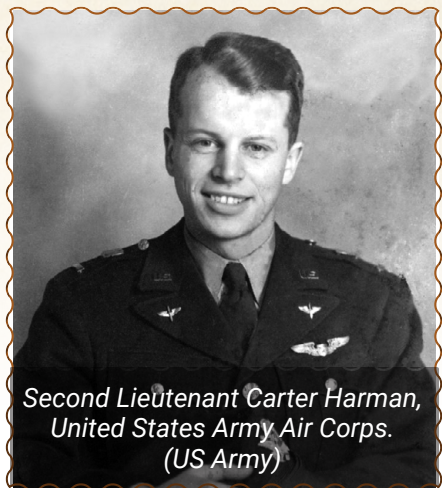


# Helicopter rescue: First performed by the US Army Air Forces in April 1944 during World War II in Burma



Second Lieutenant Carter Harman,  
United States Army Air Corps.  
(US Army)

**21** April 1944: The first military helicopter combat rescue began with Lieutenant Carter Harman, US 1st Air Commando Group, being ordered to proceed from Lalaghat, India with his Vought-Sikorsky YR-4B, 43-28247, 965kms to Taro in northern Burma during World War II.

Technical Sergeant Ed "Murphy" Hladovcak, pilot of a Stinson L-1A Vigilant liaison airplane, had crashed in the jungle behind Japanese lines while transporting three wounded British soldiers. Lieutenant Harman was assigned to attempt to rescue the four men. It would be a marathon operation.

It took Harman and his Sikorsky 24 hours to arrive at Taro. After a brief rest and dip in the river to cool off, he continued for another 202kms to an airstrip in the jungle called 'Aberdeen', which was well behind the enemy lines. It was from here that Sgt Hladovcak had been operating, flying out wounded soldiers. From Aberdeen, Harman was led to the location of the downed men by another liaison airplane. The survivors were surrounded by Japanese soldiers who had found the crashed airplane and were trying to locate the four men.

Because of the high heat, elevation and humidity, which increased the density altitude, the YR-4B's air-cooled engine was unable to produce its full rated power. Also, the helicopter's rotor blades were not as effective as they would have been at lower density altitudes.

Harman planned to lift one of the survivors out of the clearing in the jungle and fly a short distance to a sand bank where other L-1 or L-5 liaison airplanes could pick them up and fly them back to Aberdeen. He would repeat the operation until all four men had been rescued. However, it took the rest of the day to airlift just the first two wounded and very sick soldiers.

### Distinguished Flying Cross

On the second flight, the helicopter's engine was overheating and on landing it seized and could not be restarted. Sergeant

- ▶ land inside Strandveld fynbos, the species will dominate this fynbos shrub and will eventually suppress the fynbos until this vegetation completely disappears (see Photograph on front page).

Some indigenous forest edges were established during the 19th Century, with *Acacia melanoxylon* (Blackwood) but during the 20th Century most of this timber of the species was felled and its timber exploited, with this valuable timber being sold at yearly-held auctions. However, these operations have left a significant slash loading on the forest edges in question, disturbing

not only these sensitive interfaces but also creating a fuel bed through which forest edges were exposed to serious fire damage.

Such exposed or damaged forest edges need to be protected on the non-forest side of these forests, by means of keeping a strip of about 20 to 50m free from available fuel, to give these forest edges a chance to recover from the natural seedbeds. Such exposed and sensitive edges should also be kept free from *Acacia* regenerated weed, by pulling such regenerated trees out as they come up and develop from the forest floor there.

A unique area infested with mainly *Acacia mearnsii* is situated in the Maalgate area, within the depressions created there by the rivers. The history of this infestation dates back to when the species was established for the trees' bark production to be used for the tannin process to prepare leather used for the shoe factory there during the late 19th Century/early 20th Century. The seeds from these *Acacia* trees then spread into the rivers, where these developed the "Acacia jungles" now found in the area along the river banks. Felling of trees for firewood by farmers in the area, assisted in further spread of this exotic weed within the Maalgate area.



*Lt Carter Harman hovering in ground effect with Sikorsky YR-4B 43-28247 at Lalaghat, India, March 1944. This is the helicopter with which he made the first combat rescue, 21 - 25 April 1944. (US Air Force)*



*Distinguished Flying Cross*

Hladovcak and the remaining soldier were still in the jungle, Lieutenant Harman was stuck by the river bank and Japanese soldiers were everywhere.

On the morning of 25 April Lieutenant Harman was able to get the helicopter's engine to start and again, one at a time, he rescued the two remaining survivors. A liaison plane flew out the wounded soldier while Hladovcak rode along with Harman back to Aberdeen. He had never seen a helicopter before.

For his actions, Lieutenant Carter Harman was awarded the Distinguished Flying Cross.

Sikorsky YR-4B 43-28247 was condemned 31 December 1944.

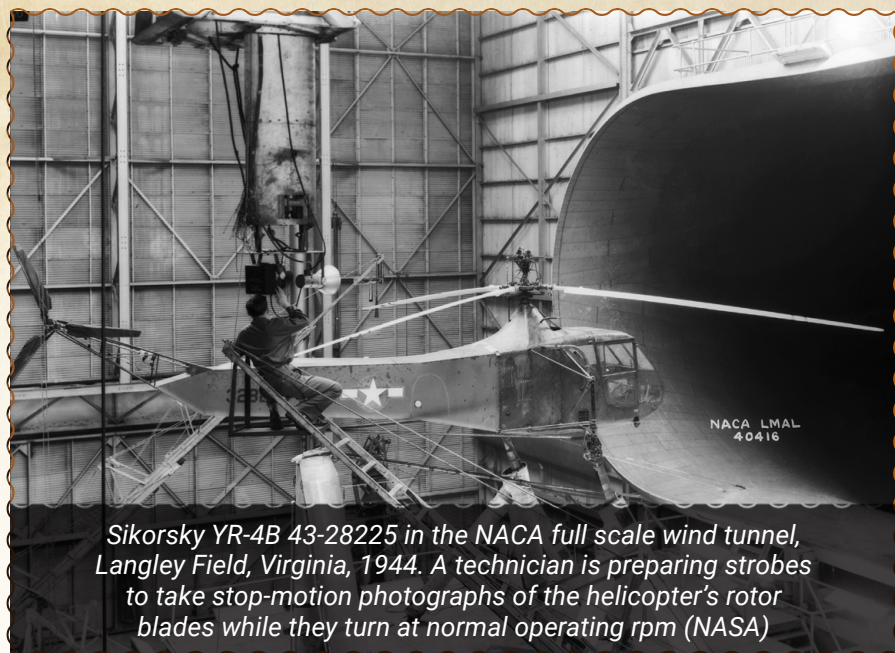
The Sikorsky YR-4B was a two-place, single-engine helicopter with a single main rotor and an anti-torque tail rotor. The fuselage was 10,881mm long with a main rotor diameter of 11,582mm. The tail rotor was 2,496mm in diameter. Its overall length, with rotors turning, was 4,716mm. The helicopter had an overall height of 3,785mm. The empty weight was 916kgs and maximum takeoff weight of 1,152kg. The helicopter's fuel capacity was 113,6l.

The main rotor consisted of three tapered, fully-articulated blades built of chrome-molybdenum steel spars and spruce plywood ribs, with laminated spruce, balsa and mahogany forming the leading edge and a flexible cable forming the trailing edge. The blades were covered with two layers of doped fabric. The three-bladed semi-articulated tail rotor was built with a spruce spar and

alternating laminations of maple and mahogany, covered with fabric. Both the main and tail rotors had a thin brass abrasion strip covering the leading edges. The main rotor turned counter-clockwise, as seen from above. The advancing blade is on the helicopter's right. The tail rotor was mounted on the helicopter's right side in a tractor configuration. It turned clockwise as seen from the helicopter's left.



*Lieutenant Carter Harman, 1st Air Commando Group, (standing, left) with Sikorsky YR-4B 43-28223, Burma, 26 April 1944. The other officer standing next to Harman is Lieutenant Frank Peterson. Harman's crew chief, Sergeant Jim Phelan, is kneeling at right. (US Air Force)*



*Sikorsky YR-4B 43-28225 in the NACA full scale wind tunnel, Langley Field, Virginia, 1944. A technician is preparing strobes to take stop-motion photographs of the helicopter's rotor blades while they turn at normal operating rpm (NASA)*

- ▶ The advancing blade is below the axis of rotation.

The YR-4B was powered by an air-cooled, direct-drive 9,1 litre Warner Super Scarab SS185 (R-550-3) seven-cylinder radial engine with a compression ratio of 6.20:1. The R-550-3 was rated at 185 horsepower at 2 175 rpm at Sea Level and 200 horsepower at 2 475 rpm (five minute limit) for takeoff. The engine was placed backwards in the aircraft with the propeller shaft driving a short driveshaft through a clutch to a 90 degree gear box and the transmission. The R-550-3 weighed 156kgs.

The R-4B had a cruise speed of 105kms per hour and maximum speed of 132kms. The service ceiling was 3 658m and range was 253kms. The YR-4B was equipped with bomb racks. It could carry three 56,7kg demolition bombs or one 147kg depth bomb. The equipment was deleted for the R-4B.

Sikorsky built 27 YR-4Bs and 100 R-4B helicopters. Of these, 40 were assigned to the Army Air Corps, 19 to the Navy and Coast Guard and 41 were sent to the Royal Air Force and Royal Navy.

Carter Harman was born at Brooklyn, New York, 14 June 1918, the son of Steven Palmer Harman, a newspaper editor, and Helen F Doremus Harman. Before the war, Harman had been a musician and author. He assisted Duke Ellington write an autobiography. Harman earned a bachelor's degree in music composition from Princeton University, Princeton, New Jersey, in 1940. While at Princeton, Harman was a member of the Dial Lodge,

American Whig Society, Princeton University Band, and the Princeton University Choir. Harman enlisted as a private in the United States Army at New York City on 1 April 1942 and was assigned to the Air Corps. Enlistment records indicate that he was 170,2cms tall and weighed 57kgs.

After World War II ended, Harman returned to his musical studies at Columbia University, New York City, receiving a master's degree in 1949. Harman worked as a music critic for The New York Times and Time Magazine and also continued writing books, as well as composing for ballet and opera. He was also a music producer and became executive vice president of CRI Records (Composers Recordings, Inc).

Harman was married three times. He married Nancy Hallinan, 5 February 1946, however, they later divorced. His second wife was Helen Scott. They had four children together. His third wife was Wanda Maximilien. Carter Harman died at Berlin, Vermont, 23 January 2007 at the age of 88 years.

Sources: This day in Aviation, written by Bryan R Swopes ▲



*Lieutenant Carter Harman in the cockpit of Sikorsky YR-4B 43-28223, Burma, 1945*