

Sikorsky HOS-1 (R-6) "Hoverfly II"



Manufacturer	Sikorsky Aircraft Corporation
Designation	HOS-1; R-6
Other Designations:	S-49
Aircraft Type	Rescue/utility helicopter
Cost	\$59,450.00
Rotor Diameter	38'
Blade Area	65 square feet
Tail Rotor Diameter	7' 10"
Height	10' 5"

Length	48'
Fuel Capacity	67 gallons
Top Speed	96 mph
Cruising Speed	90 mph
Sea Level Climb	620 fpm
Range	245 miles
Empty Weight	2,252 lbs.
Gross Weight	3,243 lbs.
Crew/passengers	3 (total)
Hover Ceiling	
Service Ceiling	10,200'
Engine	1 x 235 hp Franklin O-405-9

Historical Information:

Igor Sikorsky designed the R-6 as a follow on to his fabric covered HNS-1 (R-4). While retaining the R-4's rotor and transmission system, the R-6 had an all-metal fuselage. Twenty-seven experimental models were constructed and Nash Kelvinator, under license from Sikorsky, built all 193 production versions, designated as the R-6A.

The Navy procured three of the experimental models, designated XR-6A, from the Army Air Force's acquisitions in late-1943 and were given the Navy designation of XHOS-1. One was sent to Floyd Bennett Field for evaluation by the Coast Guard. The Navy then acquired 36 R-6As (which were then redesignated as HOS-1s) from the Army Air Force and the Coast Guard purchased 27 of these between January 1945 and January 1946. Of these, two were destroyed in crashes (no fatalities), and the rest were returned to the Navy by May 1949.

Some of the HOS-1s were assigned with the Coast Guard's Rotary Wing Development Unit, based out of Air Station Elizabeth City, North Carolina. Here they were used as test-bed platforms for new types of search and rescue equipment as well as equipment designed to improve the flight characteristics of the helicopters and their safety. Such equipment including a hover stabilizer, external fuel tanks, flotation gear, rescue hoists, and rescue baskets. They also made various modifications to the fuselage to permit the stowage of a stretcher, including a novel design whereby the stretcher was placed perpendicularly behind the pilot with either end sticking out of the fuselage. These exposed ends could be protected in flight by two cigar tube shaped objects that attached to the fuselage. The more successful design had the stretcher placed within the fuselage, facing fore and aft, next to the pilot. Some of the more famous Coast

Guard aviators who participated in these developments included Frank Erickson, Stewart Graham, and August Kleisch.

This particular model of helicopter is best known in Coast Guard history as having been instrumental in the "Miracle at Gander" rescue. A Sabena Airlines DC-4 passenger aircraft crashed into a hillside 20 miles southeast of Gander, Newfoundland, on Wednesday, 18 September 1946, while attempting to land at the Gander airport. The aircraft had left Shannon, Ireland airport at 1700 the day before for a trans-Atlantic flight with 37 passengers and a crew of seven. A TWA pilot, Ray Jennings, while making a landing approach to the airport, reported the location of the wreck the next day after seeing what appeared to be a crash site. The location was so remote that it was thought the only way to get a rescue party there was by helicopter and the call went out for assistance. CAPT Richard L. Burke, the rescue officer for the Eastern Area, organized the rescue response. A Coast Guard Public Affairs Press Release, dated 18 March 1947, described what happened:

"On 20 September, 1946, orders were received from the Eastern Area Rescue Officer, Captain R[ichard]. L. Burke, USCG, to prepare an HNS helicopter for immediate shipment to Gander, Newfoundland to take part in the rescue of survivors of a crashed Belgian Airliner. Instructions were given by telephone to LT A. N. Fisher at Elizabeth City to begin disassembly of an HNS for stowage in a C-54 transport.

An Army C-54 transport plane from Westover Field arrived at Elizabeth City at 9:25 p.m. The helicopter was loaded aboard and the transport departed at 11:26 p.m. with helicopter and crew aboard, landing at Gander at 8:55 a.m. the next morning. The helicopter was unloaded and assembly began at once. While the HNS was being assembled the pilots were flown to the scene of the crash in a Coast Guard PBV from Argentia, and plans were laid for flying the survivors out by helicopter. It was decided to drop lumber at the clearing nearest the crash for the purpose of constructing a small platform as the muskeg would not support the weight of the helicopter. A second platform was built on the edge of a lake approximately 7 miles from the clearing so that the survivors could be transferred at this point to PBV's and flown to Gander.

While the Elizabeth City HNS helicopter was being prepared for flight, another machine, the HOS, a newer and more powerful machine was also on the scene being readied as well. The HOS was from the Coast Guard Air Station, Brooklyn, N.Y. and arrived in Gander some twenty minutes before the Elizabeth City machine and was assembled and in the air before the Elizabeth City HNS. A delay was suffered by the Elizabeth City helicopter when she did not perform with her usual efficiency on the test hop following reassembly, and it was dark before the trouble could be remedied. The New York helicopter managed to remove eight (8) cases before dark, all of whom had to be carried in a stretcher due to the seriousness of their injuries. The next day both helicopters were used to fly out the remaining survivors plus the fourteen members of the Army ground rescue team and several others, who had gone in to help with the evacuation at the scene of the crash. The following day, after all survivors had been flown out, the investigators and officials of the Airline were flown in by helicopter.

In all, the helicopters made forty (40) flights into the clearing. Landings, both at the clearing and at the lake were made on the wooden platforms thus permitting maximum performance of the helicopters. The most expert flying was required of the pilots in order to avoid accidents. Two accidents which could have wrecked the helicopters were narrowly averted. On the first flight into the clearing, the landing platform was not ready and Lieutenant [August] Kleisch had to touch down on a tarpaulin spread on the muskeg. The machine mired in until she was up to her belly and her air intake cut off. The second near accident happened when a cargo chute, lying near by, was drawn into the main rotor. The damage suffered was slight, but could have been very serious."

The Coast Guardsmen rescued 18 survivors of the airliner's passengers and crew. The pilots of the helicopters and PBYs were all awarded Air Medals as well as the Belgian "Knight of the Order of Leopold" medals. In this major rescue effort, the usefulness of the new helicopters in saving lives in remote locations became evident and secured a place in the Coast Guard's inventory for these rotary-winged aircraft.



No caption/date/photo number; photographer unknown. A Coast Guard HOS-1 prepares to land aboard the CGC Cobb, the service's experimental test bed for helicopter/cutter flight operations.



"San Francisco - Late '40's."; no specific date; no photo number; photographer unknown. A HOS-1 at San Francisco. Note the retriever boom and pulley.



"HOS-1 #75605, Eliz. City, N.C., 1947, Packed Flotation Gear, External Fuel Tanks, Stretcher Opening - Capped."; 1947; no photo number; photographer unknown.



"COAST GUARD DAY RESCUE DEMONSTRATION, Pilot: Lieut. Stew. Graham, U.S.C.G. HOS-1 Helicopter #605 Person in liferaft - Coast Guard Cadet Roanoke Island, N.C."; 4 August 1946; no photo number; photographer unknown.



"Remains of Coast Guard Experimental Helicopter - Sikorsky XHOS-1 #447 after the main carrier bearing failed in the rotor head - Dec. 2nd, 1944 while enroute from far-Rockaway Heliport, Long Island, N.Y. to Floyd Bennett Field, Bklyn; N.Y. Pilot: LT Gus. Kleisch - U.S.C.G. Co. Pilot: LT Bill Prindle - U.S.C.G. Passenger: LT Stew. Graham - U.S.C.G. Stew. Graham only one injured in crash - spraind [sic] back and lacerations.; 2 December 1944; Photo No. 306-2; photographer unknown.



"Gander, Newfoundland Scene of Helicopter Landing Site on Muskeg. HOS-1 Coast Guard Helicopter From Floyd Bennett, Bkly. N.Y.; 22 September 1946; no photo number; photographer unknown.

Sources:

HOS-1 (Sikorsky) File, USCG Historian's Office collection.

Barrett Thomas Beard. *Wonderful Flying Machines: A History of U.S. Coast Guard Helicopters*. Annapolis: Naval Institute Press, 1996.

Arthur Percy, *U.S. Coast Guard Aircraft Since 1916*. Annapolis: Naval Institute Press, 1991, pp. 283-284.

Gordon Swanborough & Peter M. Bowers. *United States Navy Aircraft Since 1911*. Annapolis: Naval Institute Press, 1990-third edition, p. 525.

