OV-1 EVAC

Another of my responsibilities as the 244th aircraft maintenance officer was to evacuate damaged OV-1's. One means of doing this was by the use of the CH-54 Tarhe helicopter. It was the only helicopter at the time capable of lifting the 15,000 pound Mohawk.

Depicted in the following photos is the sequence of events in the air evacuation of OV-1C 59-2608. Photos 1 and 2 show the Mohawk nose down in a water filled canal. This accident was the result of a pilot landing long on a wet perforated steel planking (PSP) runway, running off the runway's end, over a dirt road, and into the canal.

Photo 3 is a CH-54 Tarhe heavy lift helicopter. The CH-54 is parked on a PSP taxi and parking area. This helicopter was part of the 273d Aviation Company located at Long Binh, some 120 miles northeast of Can Tho.

In photo 4 the CH-54 is en route to the downed OV-1. The CH-54 was built by Sikorsky Aircraft and had the following characteristics: 88' 6" in length, over 25' tall, 6 main rotor blades, twin Pratt and Whitney engines of 4,500 shaft horsepower each, and a 15,000 pound winch/cargo hoist capability.

Photos 5 and 6 shows several aircraft maintenance personnel attaching the cargo hook of the CH-5 to a special lifting harness affixed to the OV-1. Note in these photos as well as the next, the wing spoilers applied to the leading edges of the wings and elevator surfaces. These were 4x4s and were necessary to insure that a disruption of airflow occurred over the OV-1's airfoils. The last thing needed was for the Mohawk to begin to fly and climb up and into the CH-54 as forward airspeed was gained.

The Mohawk is suspended about 20' above the ground in photo 7. The debris falling from the aircraft is both water and vegetation. With the Mohawk partially submerged in water, three unknown factors played an important part in this evacuation:

Factor 1: What was the actual weight of the Mohawk? This was extremely important as there are limitations on the helicopter's capabilities. (Even the temperature at the time of an evacuation can have an adverse effect. Because of the unusually hot days in Vietnam, almost all evacuations were early in the morning.) It was estimated that up to 3,000 pounds of water filled the Mohawk's cockpit, nose and forward fuselage sections. This additional weight to the aircraft was offset by the removal of the two wing fuel pods, additional fuel in the main fuel cell and several internal mission system items.

Factor 2: What would occur when the CH-54 began lifting the OV-1 from the canal? Would the OV-1's landing gear, especially the nose gear, be entangled in the vegetation? Would the canal's muck have a sucking and restraining effect on the

OV-1 as it began to pull free? The bottom line was: Did the CH-54 have enough power to lift the weight of the aircraft, the added water weight, and over come the opposing forces?

Factor 3: If the OV-1 were pulled free, what attitude would it assume? Would the nose remain low due to the added forward center of gravity or would it level out if and when the water drained?

Initially the CH-54 could not extract the OV-1 straight up out of the water. The helicopter had to hover behind the Mohawk and gently back it out a couple feet at which time the suction effect was broken. The plane was then lifted up several feet. It took about 10 minutes for enough water to drain out of the flooded compartments before the nose took a level attitude. The CH-54 and OV-1C 59-2608 were then able to depart as shown in photo 8.


UNITED STATES ARMY