



National Transportation Safety Board Aviation Accident Preliminary Report

Location:	Kent Island, MD	Accident Number:	ERA19FA163
Date & Time:	05/04/2019, 1210 EDT	Registration:	N572MD
Aircraft:	Guimbal CABRI	Injuries:	2 Fatal
Flight Conducted Under:	Part 91: General Aviation - Personal		

On May 4, 2019, about 1210 eastern daylight time, a Guimbal Cabri G2, N572MD, was destroyed when it impacted the Chesapeake Bay near Kent Island, Maryland. The private pilot and passenger were fatally injured. The helicopter was registered to a corporation and operated by Monumental Helicopters as a Title 14 *Code of Federal Regulations* Part 91 personal flight. Instrument meteorological conditions prevailed for the flight, and a special flight rules area flight plan was filed for the local flight that originated from Tipton Airport (FME), Fort Meade, Maryland, around 1130.

According to a fuel receipt, the pilot fueled the helicopter with 14 gallons of fuel before departing on the accident flight.

According to several witnesses and preliminary radar data obtained from the Federal Aviation Administration (FAA), the helicopter was flying around the southern point of Kent Island for several minutes before the accident occurred. One witness stated that the weather was "cloudy and the fog was heavy." Another witness reported that the helicopter was "flying very low to the water in dense fog," before the accident occurred.

According to FAA airman records, the pilot held a private pilot certificate with a rating for rotorcraft-helicopter. The pilot was issued a second-class medical certificate on July 6, 2017, with no limitations. The pilot's logbook was recovered, and he recorded 103.5 total hours of flight time; all of which were in the accident helicopter. He did not hold an instrument rating, nor did he record any instrument flight time or simulated instrument flight time.

According to FAA airworthiness records, the two-seat, light helicopter was manufactured in 2017. It was equipped with a Lycoming O-360-J2A engine and it was not certificated to fly in instrument meteorological conditions. The main rotor had 3 rotor blades that turned in the clockwise direction. The helicopter's most recent 100-hour inspection was completed on April 1, 2019, at a Hobbs time of 599.1 hours. The Hobbs meter that was observed postaccident indicated 645.5 hours.

The recorded weather observation at Bay Bridge Airport (W29), Stevensville, Maryland, around the time of the accident, which was about 8 miles to the northeast of the accident

location, included wind from 350° at 5 knots, visibility 3 miles, mist, overcast clouds at 400 ft above ground level, temperature 18° C, dew point 18° C; and an altimeter setting of 29.88 inches of mercury.

The helicopter impacted the Chesapeake Bay, about 1 mile from the shoreline and was located in about 63 feet of water. All major components of the helicopter were recovered and an oil and fuel sheen was noted on the water by first responders. Flight control continuity was confirmed from the flight controls to the main rotor and tail rotor through multiple overstress fractures. Continuity was confirmed from the throttle to the engine through all push pull tubes. The windscreen, doors, and forward section of the fuselage were fragmented. The instrument console remained attached to the main wreckage through cables and wires. Both seats were impact separated but remained attached to the fuselage by their seatbelts.

All main rotor blades remained attached to the rotor head but were removed to facilitate recovery. The yellow rotor blade exhibited impact damage and was fragmented. The lead/lag damper was not extended. The green rotor blade was impact damaged and the outboard portion of the blade was partially separated. The lead/lag damper was extended about 0.5 centimeters (cm). The red rotor blade was impact damaged and sections of the trailing edge were splayed open. The red lead/lag damper was extended about 4 cm.

The fenestron remained attached to the tailboom. Chordwise scratching was noted on the fenestron housing. All fenestron vanes were bent the opposite direction of travel. The tail rotor rotated freely when the tail rotor drive shaft was rotated by hand. The tail rotor drive shaft was bent and separated from the transmission. Continuity was confirmed from the anti-torque pedals to the tail rotor.

The engine remained attached to the helicopter through two of the three engine mounts and was removed from the airframe for further examination. Crankshaft continuity was confirmed by rotating the scroll assembly by hand. The scroll assembly exhibited impact damage about 1/3 of the circumference. Thumb compression and suction was noted on the Nos. 2, 3, and 4 cylinders. The No. 1 cylinder was removed and examined. When water was placed in the cylinder, the majority of the water leaked through the exhaust valve seat and a minor amount of water leaked through the intake valve seat.

The carburetor was removed from the engine. Fuel and water were noted in the bowl. The carburetor floats exhibited hydraulic deformation. The accelerator pump operated when the throttle arm was moved by hand. The carburetor fuel inlet screen was removed and no debris was noted. The carburetor gasket was removed and no tears were noted. The carburetor heat door was located in the closed position. The assembly was impact damaged and pushed up onto the carburetor. The automatic carburetor door was tested using a 12V battery. When the wires were connected to the battery, the door operated and moved to an open position. The wires were then moved to the opposite poles of the battery and the carburetor door moved to the closed position.

The oil suction screen was removed and no debris was noted. The oil filter was removed and disassembled. No debris was noted in the filter. The engine driven fuel pump was removed from the engine and it operated when moved by hand. The helicopter was equipped with an

electronic and single-conventional magneto ignition system. The magneto was removed from the engine and produced spark on all towers when rotated.

An Electronic Pilot Monitor was removed from the instrument panel and sent to the NTSB Recorders Laboratory for further examination. In addition, the passenger's cell phone was retained and sent to the NTSB Recorders Laboratory for data download.

Aircraft and Owner/Operator Information

Aircraft Make:	Guimbal	Registration:	N572MD
Model/Series:	CABRI G2	Aircraft Category:	Helicopter
Amateur Built:	No		
Operator:	Monumental Helicopters	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument Conditions	Condition of Light:	Day
Observation Facility, Elevation:	W29, 17 ft msl	Observation Time:	1600 UTC
Distance from Accident Site:	8 Nautical Miles	Temperature/Dew Point:	18° C / 18° C
Lowest Cloud Condition:		Wind Speed/Gusts, Direction:	5 knots / , 350°
Lowest Ceiling:	Overcast / 400 ft agl	Visibility:	3 Miles
Altimeter Setting:	29.88 inches Hg	Type of Flight Plan Filed:	VFR
Departure Point:	Fort Meade(Odenton), MD (FME)	Destination:	Fort Meade(Odenton), MD (FME)

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	1 Fatal	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 Fatal	Latitude, Longitude:	38.815833, -76.383056

Administrative Information

Investigator In Charge (IIC):	Heidi Kemner
Additional Participating Persons:	Bentley Hunte; FAA/FSDO; Baltimore, MD David Harsanyi; Lycoming Engines; Williamsport, PA
Note:	The NTSB traveled to the scene of this accident.