



National Transportation Safety Board Aviation Accident Factual Report

Location:	Orchard Lake, MI	Accident Number:	CEN18LA365
Date & Time:	09/03/2018, 1500 EDT	Registration:	N1601Y
Aircraft:	MD HELICOPTERS MD-369	Aircraft Damage:	Substantial
Defining Event:	Collision during takeoff/land	Injuries:	1 Serious
Flight Conducted Under:	Part 91: General Aviation - Personal		

On September 3, 2018, about 1500 eastern daylight time, a MD Helicopters 369E, N1601Y, sustained substantial damage when it was involved in an accident near Orchard Lake, Michigan. The private pilot sustained serious injuries. The helicopter was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The pilot reported he was planning a short flight in the local area. The helicopter was stationed on a wheeled helicopter transportation dolly at his private heliport. The helicopter departed from the dolly and came to an in-ground effect hover. As the pilot was maneuvering the helicopter to the right of the dolly at a hover, a flock of Canada geese (*Branta canadensis*) "came flying into the front and right" of the helicopter. The pilot reported he remembered "quickly moving" the helicopter back to the right to avoid the birds, and that it was the last action he could recollect until after the impact when the helicopter was laying on its side. The helicopter came to rest on its left side on a flat grass field in front of the heliport, with the main rotor blades separated from the main rotor hub and the tail rotor gearbox separated from the tailboom. The pilot reported there were no preimpact mechanical malfunctions or failures with the airframe and engine that would have precluded normal operation.

Emergency services personnel extracted the pilot from the wreckage. The pilot sustained serious injuries to his head and body. A review of the pilot's medical records by the NTSB found the left side of the pilot's face and the right side of the pilot's head sustained impact injuries from the accident sequence. The pilot was not wearing a flight helmet during the accident flight, nor was he required to do so. The NTSB investigator-in-charge proposed to the manufacturer's air safety department about producing and distributing educational guidance encouraging pilots to wear a flight helmet and the manufacturer agreed. MD Helicopters Operational Safety Notice OSN2019-002 Aviation Life Support Equipment – Flight Helmets was created and released to the public in April 2019.

The pilot's private heliport is located about 350 ft south of the Upper Straits Lake in a residential area. According to the U.S. Department of Agriculture (USDA) Wildlife Services, Canada Geese build nests on the ground near water and consume grass and aquatic plants. The USDA additionally states that, "Canada geese can collide with aircraft causing fatal results."

Pilot Information

Certificate:	Private	Age:	87, Male
Airplane Rating(s):	None	Seat Occupied:	Left
Other Aircraft Rating(s):	Helicopter	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 With Waivers/Limitations	Last FAA Medical Exam:	10/25/2017
Occupational Pilot:	No	Last Flight Review or Equivalent:	10/01/2017
Flight Time:	(Estimated) , 3600 hours (Pilot In Command, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	MD HELICOPTERS	Registration:	N1601Y
Model/Series:	MD-369 E	Aircraft Category:	Helicopter
Year of Manufacture:	1987	Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	0216E
Landing Gear Type:	Skid	Seats:	4
Date/Type of Last Inspection:	08/17/2018, Annual	Certified Max Gross Wt.:	2250 lbs
Time Since Last Inspection:		Engines:	1 Turbo Shaft
Airframe Total Time:	2942 Hours as of last inspection	Engine Manufacturer:	Rolls-Royce
ELT:		Engine Model/Series:	250-C20B
Registered Owner:	HiFlite Inc.	Rated Power:	492 hp
Operator:	On file	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	KPTK, 976 ft msl	Distance from Accident Site:	6 Nautical Miles
Observation Time:	2038 UTC	Direction from Accident Site:	350°
Lowest Cloud Condition:	Scattered / 6000 ft agl	Visibility	10 Miles
Lowest Ceiling:		Visibility (RVR):	
Wind Speed/Gusts:	5 knots /	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	290°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	30.19 inches Hg	Temperature/Dew Point:	30° C / 21° C
Precipitation and Obscuration:	Moderate - In the Vicinity - Thunderstorms - No Precipitation		
Departure Point:	Orchard Lake, MI (7MI1)	Type of Flight Plan Filed:	None
Destination:	Orchard Lake, MI (7MI1)	Type of Clearance:	None
Departure Time:	1500 EDT	Type of Airspace:	Class G

Airport Information

Airport:	McPhail Heliport (7MI1)	Runway Surface Type:	Concrete; Grass/turf; Metal/Wood
Airport Elevation:	970 ft	Runway Surface Condition:	Dry
Runway Used:	N/A	IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Serious	Latitude, Longitude:	42.572222, -83.395000 (est)

Administrative Information

Investigator In Charge (IIC):	Michael J Hodges
Additional Participating Persons:	Glenn Shaw; FAA East Michigan FSDO; Belleville, MI John Hobby; Boeing; Mesa, AZ Joan Gregoire; MD Helicopters; Mesa, AZ
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=98215