Aviation Investigation Final Report

Location:	Loris, South Carolina	**Accident Number:**	ERA09LA378
Date & Time:	July 2, 2009, 21:00 Local	**Registration:**	N53963
Aircraft:	Eurocopter AS 350 B2	**Aircraft Damage:**	Substantial
Defining Event:	Collision during takeoff/land	**Injuries:**	3 None
Flight Conducted Under:	Part 91: General aviation - Positioning		

Analysis

The pilot was performing a visual nighttime approach to a hospital heliport to pick up a patient for transport. The pilot flew the final approach west, into the wind. As the helicopter approached the helipad the two onboard clinicians were calling out obstructions, such as trees and light poles. About 5 feet above the helipad the tailrotor struck a short steel pole adjacent to the helipad. The helicopter shuttered and vibrated, but the pilot was able to continue the landing. Although all three crewmembers had been to the heliport before, they forgot about the short steel poles aligned adjacent to the helipad. The recorded weather at an airport approximately 15 miles northeast of the accident site, about the time of the accident, included calm wind, clear skies, and visibility of 10 miles. After the accident, the hospital removed the short steel poles adjacent to the helipad and the Federal Aviation Administration initiated research into the crew training, operations specifications, and the history of the poles being erected near the helipad. Additionally, the operator's regional safety manager stated that all pilots have begun additional training to position aircraft in such a manner to ensure that all components of the aircraft are clear of all hazards on the periphery or boundaries of marked landing zones/heliports, rather than attempting to place the center of the aircraft at the center of the landing zone/heliport. The operator also initiated a reassessment of hazards at landing zones/heliports within each of their regions' normal operating area, and reported that the information from the reassessments will be added as part of normal preflight briefings and risk assessments.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The crew's failure to see and avoid a steel pole during a nighttime approach to the helipad.

Findings

Personnel issues	Monitoring environment - Flight crew
Environmental issues	Pole - Awareness of condition

Factual Information

History of Flight

Approach	Collision during takeoff/land (Defining event)

On July 2, 2009, about 2100 eastern daylight time, a Eurocopter AS 350 B2 helicopter, N53963, operated by Omniflight Helicopters Inc., was substantially damaged while landing at Loris Community Hospital Heliport (5SC5), Loris, South Carolina. The certificated commercial pilot and two clinicians were not injured. Night visual meteorological conditions prevailed and a company flight plan was filed for the medical positioning flight conducted under the provisions of 14 Code of Federal Regulations Part 91. The flight originated from Conway-Horry County Airport (HYW), Conway, South Carolina, at 2040.

According to the pilot, the purpose of the flight was to pick up a patient at 5SC5 for transport. The pilot initiated an approach to 5SC5, to the west, into the wind. As the helicopter approached the helipad, the clinicians were "call(ing)" clear of obstructions, such as trees and light poles. About 5 feet above the helipad, the helicopter shuttered and vibrated. The pilot continued the landing and performed an emergency engine shutdown.

A Federal Aviation Administration (FAA) inspector subsequently interviewed the pilot and clinicians. The FAA inspector stated that although all three persons had been to the heliport before, they simply forgot about several steel poles aligned adjacent to the helipad. Just prior to landing, the tailrotor struck one of the steel poles, and the helicopter came to rest on the helipad.

Two of the four steel poles were about 2 feet high and 4 inches in diameter, and the other two were about 3 feet high and 6 inches in diameter. The poles were placed along one side of the helipad along the perimeter line that separated the helipad from a road.

According to the operator's Vice President of Clinical Services, all clinicians are trained with the pilots in Air Medical Resource Management (AMRAM). Through that training, the clinicians are taught to point out obstacles and hazards to flight.

Examination of the helicopter by the FAA inspector revealed damage to the tailboom, tailrotor, tailrotor gearbox, tailrotor drive shaft, main rotor, and horizontal stabilizer.

The recorded weather at an airport approximately 15 miles northeast of the accident site, at 2058, included calm wind, clear skies, and visibility 10 miles.

The pilot had accumulated 2,587 total flight hours in rotorcraft, including 501 hours as pilot-in-command in the Eurocopter AS 350 B2 helicopters. The pilot logged 46, 19, and 2 flight hours

in the previous 90, 30, and 1 days respectively.

Subsequent to the accident, the hospital removed the short steel poles adjacent to the helipad.

The FAA inspector stated that the FAA will research the crew training, ops specs, and the history of the poles being erected near the helipad.

The Eastern Region Safety Manager for Omniflight stated the following in the "Recommendation" section of the NTSB Pilot/Operator Report form:

"The conclusion of the Pilot involved and the Company Chief Pilot was that the incident could have been averted if the landing to the landing zone had been made further into the landing zone as to prevent the tail rotor from impacting any obstruction in the vicinity of the edge of the landing zone. Initial and immediate action has been to indoctrinate all pilots flying into medium to small sized landing zones / heliports to position aircraft in such a manner to ensure that all components of the aircraft are clear of all hazards on the periphery and or confines/boundaries of marked landing zones/heliports rather than attempting to place the center of the aircraft at the center of the landing zone / heliport. Corporate wide reassessment of hazards at landing zones/heliports within each regions normal operating area is underway and will be added/updated as needed and posted as part of normal preflight briefings / risk assessments."

[This Report was modified on December 21, 2009]

Pilot Information

Certificate:	Commercial; Private	**Age:**	43,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Right
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	
Instrument Rating(s):	Helicopter	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 2 With waivers/limitations	**Last FAA Medical Exam:**	November 11, 2008
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	December 15, 2008
Flight Time:	2701 hours (Total, all aircraft), 501 hours (Total, this make and model), 1901 hours (Pilot In Command, all aircraft), 46 hours (Last 90 days, all aircraft), 19 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Eurocopter	**Registration:**	N53963
Model/Series:	AS 350 B2	**Aircraft Category:**	Helicopter
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	3963
Landing Gear Type:	Skid	**Seats:**	4
Date/Type of Last Inspection:	June 29, 2009 AAIP	**Certified Max Gross Wt.:**	2120 lbs
Time Since Last Inspection:	7 Hrs	**Engines:**	1 Turbo shaft
Airframe Total Time:	2377 Hrs at time of accident	**Engine Manufacturer:**	TURBOMECA
ELT:	Installed, not activated	**Engine Model/Series:**	ARRIEL 1D1
Registered Owner:	US BANCORP EQUIPMENT FINANCE INC	**Rated Power:**	625 Horsepower
Operator:	OMNIFLIGHT HELICOPTER INC.	**Operating Certificate(s) Held:**	On-demand air taxi (135)
Operator Does Business As:		**Operator Designator Code:**	02MA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Night
Observation Facility, Elevation:	CPC,98 ft msl	**Distance from Accident Site:**	15 Nautical Miles
Observation Time:	20:58 Local	**Direction from Accident Site:**	45°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	/	**Turbulence Type Forecast/Actual:**	/
Wind Direction:		**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.87 inches Hg	**Temperature/Dew Point:**	26°C / 18°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Conway, SC (HYW)	**Type of Flight Plan Filed:**	Company VFR
Destination:	Loris, SC (5SC5)	**Type of Clearance:**	None
Departure Time:	20:40 Local	**Type of Airspace:**	

Airport Information

Airport:	Loris Community Hospital Helip 5SC5	**Runway Surface Type:**	
Airport Elevation:	91 ft msl	**Runway Surface Condition:**	
Runway Used:		**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	Straight-in

Wreckage and Impact Information

Crew Injuries:	3 None	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	3 None	**Latitude, Longitude:**	34.058887,-78.89833(est)

Administrative Information

Investigator In Charge (IIC):	Gretz, Robert
Additional Participating Persons:	Sean Mosher; FAA/FSDO; West Columbia, SC
Original Publish Date:	March 3, 2010
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=74191