



National Transportation Safety Board Aviation Accident Final Report

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|--------------------------------|---------------------------------------|-------------------------|------------|
| Location: | Ciales, PR | Accident Number: | ERA13LA152 |
| Date & Time: | 03/02/2013, 1500 AST | Registration: | N834RC |
| Aircraft: | ROBINSON HELICOPTER COMPANY R44 II | Aircraft Damage: | Destroyed |
| Defining Event: | Miscellaneous/other | Injuries: | 1 Minor |
| Flight Conducted Under: | Part 91: General Aviation - Personal | | |

Analysis

According to the pilot, the helicopter was in cruise flight about 700 feet above ground level when he perceived a loss of rotor rpm and entered autorotation. During the descent, the helicopter turned 180 degrees, struck power lines, and collided with terrain. A postcrash fire consumed a significant portion of the helicopter. A detailed examination of the remaining portions of the helicopter, its engine, and associated components revealed no preimpact mechanical malfunctions or failures that would have precluded normal operation.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A loss of main rotor rpm for reasons that could not be determined because an examination of the helicopter's engine and associated components did not reveal any mechanical malfunctions or failures that would have precluded normal operation.

Findings

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| Not determined | Not determined - Unknown/Not determined (Cause) |
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Factual Information

On March 2, 2013, about 1500 Atlantic standard time, a Robinson R44 II helicopter, N834RC, operated by a private individual, was destroyed when it collided with powerlines and terrain while making an autorotation following a reported loss of main rotor RPM near Ciales, Puerto Rico, P. R. The private pilot received minor injuries. The flight departed from a field, near Yauco, PR, about 1420, and was destined for Fernando Luis Ribas Dominicci Airport (TJIG), San Juan, PR. Visual meteorological conditions prevailed, and no flight plan was filed for the flight. The personal flight was conducted under the provisions of 14 Code of Federal Regulations Part 91.

While enroute at about 700 feet above ground level, the pilot observed the rotor rpm decaying and immediately entered a 180 degree autorotation. The helicopter subsequently collided with high tension wires and then impacted terrain. A post crash fire consumed a significant portion of the helicopter.

According to Federal Aviation Administration (FAA) records, the pilot held a private pilot certificate, with a rating for a rotorcraft-helicopter. The pilot's most recent FAA third-class medical certificate was issued on February 19, 2013. The pilot reported 239 total hours of flight experience with 73 hours in the R44.

The single-engine, single-rotor helicopter, serial number 11616, was powered by a Lycoming IO-540, 260-horsepower engine. An annual inspection was completed on October 1, 2012 at 743 total aircraft hours.

Witnesses reported they saw a low flying helicopter making exploding noises and saw black smoke coming from it. The helicopter then collided with power lines, caught fire and crashed underneath the power lines.

Examination of the engine by a FAA inspector revealed no external impact or fire damage to the cylinders or manifolds. The engine was free to move when examined by a FAA Inspector. Compression was confirmed on all six cylinders using a compression tester. The magnetos were not tested due to fire damage. Examination of the lower spark plugs revealed normal wear on all six plugs. The fuel injection servo was removed, and examined by an NTSB investigator in Ashburn, Virginia on April 15, 2013, and no anomalies were noted.

At 1550, the weather observation at Mercedita Airport (TJPS), Ponce, Puerto Rico, 20 miles south of the accident site included wind from 150 degrees at 10 knots, 10 miles visibility, and a few clouds at 3,000 feet. The temperature was 29 degrees C, the dew point was 21 degrees C, and the altimeter setting was 29.99 inches of mercury.

History of Flight

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| Enroute | Miscellaneous/other (Defining event) |
| Autorotation | Collision with terr/obj (non-CFIT) |

Pilot Information

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|----------------------------------|---|--|----------------------------|
| Certificate: | Private | Age: | 49, Male |
| Airplane Rating(s): | None | Seat Occupied: | Right |
| Other Aircraft Rating(s): | Helicopter | Restraint Used: | Seatbelt, Shoulder harness |
| Instrument Rating(s): | None | Second Pilot Present: | No |
| Instructor Rating(s): | None | Toxicology Performed: | No |
| Medical Certification: | Class 3 None | Last Medical Exam: | 02/19/2013 |
| Occupational Pilot: | No | Last Flight Review or Equivalent: | 12/08/2012 |
| Flight Time: | 239 hours (Total, all aircraft), 73 hours (Total, this make and model), 40 hours (Pilot In Command, all aircraft), 6 hours (Last 90 days, all aircraft), 6 hours (Last 30 days, all aircraft) | | |

Aircraft and Owner/Operator Information

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|--------------------------------------|-----------------------------|---|-----------------|
| Aircraft Manufacturer: | ROBINSON HELICOPTER COMPANY | Registration: | N834RC |
| Model/Series: | R44 II | Aircraft Category: | Helicopter |
| Year of Manufacture: | | Amateur Built: | No |
| Airworthiness Certificate: | Normal | Serial Number: | 11616 |
| Landing Gear Type: | Skid | Seats: | 4 |
| Date/Type of Last Inspection: | 10/01/2012, Annual | Certified Max Gross Wt.: | 2500 lbs |
| Time Since Last Inspection: | | Engines: | 1 Reciprocating |
| Airframe Total Time: | 743 Hours | Engine Manufacturer: | LYCOMING |
| ELT: | Not installed | Engine Model/Series: | IO-540-AE1A5 |
| Registered Owner: | HECTOR FORTIS SANTIAGO | Rated Power: | 260 hp |
| Operator: | HECTOR FORTIS SANTIAGO | Air Carrier Operating Certificate: | None |

Meteorological Information and Flight Plan

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|----------------------------------|----------------------------------|------------------------------|-------------------|
| Observation Facility, Elevation: | TJPS, 29 ft msl | Observation Time: | 1550 CST |
| Distance from Accident Site: | 20 Nautical Miles | Condition of Light: | Day |
| Direction from Accident Site: | 195° | Conditions at Accident Site: | Visual Conditions |
| Lowest Cloud Condition: | Few / 30 ft agl | Temperature/Dew Point: | 29° C / 21° C |
| Lowest Ceiling: | None | Visibility | 10 Miles |
| Wind Speed/Gusts, Direction: | 10 knots, 150° | Visibility (RVR): | |
| Altimeter Setting: | 29.99 inches Hg | Visibility (RVV): | |
| Precipitation and Obscuration: | No Obscuration; No Precipitation | | |
| Departure Point: | Yauco, PR | Type of Flight Plan Filed: | None |
| Destination: | San Juan, PR (TJIG) | Type of Clearance: | None |
| Departure Time: | 1420 AST | Type of Airspace: | |

Wreckage and Impact Information

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|---------------------|---------|---------------------|-----------|
| Crew Injuries: | 1 Minor | Aircraft Damage: | Destroyed |
| Passenger Injuries: | N/A | Aircraft Fire: | On-Ground |
| Ground Injuries: | N/A | Aircraft Explosion: | None |
| Total Injuries: | 1 Minor | | |

Administrative Information

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| Investigator In Charge (IIC): | John J Neylon | Adopted Date: | 08/07/2013 |
| Additional Participating Persons: | Dennis Ortiz; FAA San Juan FSDO; San Juan, PR | | |
| Publish Date: | 08/07/2013 | | |
| Investigation Docket: | http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=86339 | | |

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