



Aviation Investigation Final Report

Location:	Isabela, Puerto Rico	Accident Number:	ANC05LA032
Date & Time:	February 12, 2005, 15:40 Local	Registration:	N38DJ
Aircraft:	Johnson Revolution Mini 500	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot was conducting a personal flight in a single-seat experimental helicopter under 14 CFR Part 91 when the helicopter had a loss of engine power. The pilot entered an autorotation to a construction site, and during the approach to land, he had to maneuver away from power lines. After clearing the power lines, the rotor rpm was too low to flare the helicopter, and it impacted the ground. The pilot said due to the extensive damage, he was not able to determine why the engine lost power.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The loss of engine power during cruise flight for an undetermined reason, which resulted in an autorotation and collision with terrain.

Findings

Occurrence #1: LOSS OF ENGINE POWER

Phase of Operation: CRUISE

Findings

1. (C) REASON FOR OCCURRENCE UNDETERMINED

Occurrence #2: FORCED LANDING

Phase of Operation: DESCENT - EMERGENCY

Findings

2. AUTOROTATION - PERFORMED - PILOT IN COMMAND

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: EMERGENCY DESCENT/LANDING

Findings

3. TERRAIN CONDITION - GROUND

Factual Information

On February 12, 2005, about 1540 eastern standard time, an experimental amateur built Johnson Revolution Mini 500 helicopter, N38DJ, sustained substantial damage when it collided with terrain following a loss of engine power, and subsequent emergency descent and landing at Isabela, Puerto Rico. The helicopter was being operated by the pilot as a local visual flight rules (VFR) personal flight under Title 14, CFR Part 91, when the accident occurred. The solo private pilot received minor injuries. Visual meteorological conditions prevailed, and no flight plan was filed.

During a telephone conversation with the National Transportation Safety Board (NTSB) investigator-in-charge (IIC) on February 13, the FAA aviation safety inspector who interviewed the pilot said the pilot told him the helicopter had a loss of engine power for an unknown reason. The pilot reported he attempted an autorotation to a building construction site, but had to maneuver hard to miss power lines. The pilot said that during the maneuver, the rotor rpm dropped, and he was unable to stop the descent prior to the collision with terrain. He said the helicopter sustained structural damage to the fuselage and rotor system.

In a written statement to the NTSB dated May 19, the pilot said due to the extensive damage to the helicopter, he was unable to determine why the engine lost power.

Pilot Information

Certificate:	Private	Age:	52, Male
Airplane Rating(s):	None	Seat Occupied:	Front
Other Aircraft Rating(s):	Helicopter	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 Without waivers/limitations	Last FAA Medical Exam:	November 1, 2003
Occupational Pilot:	No	Last Flight Review or Equivalent:	March 1, 2004
Flight Time:	142 hours (Total, all aircraft), 51 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Johnson	Registration:	N38DJ
Model/Series:	Revolution Mini 500	Aircraft Category:	Helicopter
Year of Manufacture:		Amateur Built:	Yes
Airworthiness Certificate:	Experimental (Special)	Serial Number:	321
Landing Gear Type:	Skid	Seats:	1
Date/Type of Last Inspection:	February 1, 2005 Condition	Certified Max Gross Wt.:	840 lbs
Time Since Last Inspection:	0 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	125 Hrs at time of accident	Engine Manufacturer:	Rotax
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	582
Registered Owner:	Neftail Valentin	Rated Power:	67 Horsepower
Operator:		Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:		Distance from Accident Site:	
Observation Time:		Direction from Accident Site:	
Lowest Cloud Condition:	Clear	Visibility	20 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	/
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	21°C
Precipitation and Obscuration:			
Departure Point:	Vega Baja, PR	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	15:40 Local	Type of Airspace:	

Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Minor	Latitude, Longitude:	18.494722,-67.129447

Administrative Information

Investigator In Charge (IIC):	Lewis, Lawrence
Additional Participating Persons:	Carlos Agueua; FAA San Juan PR; San Juan, PR
Original Publish Date:	December 20, 2005
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=61005

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The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).