National Transportation Safety Board
Aviation Accident Data Summary

Location:	Jackson, MS	**Accident Number:**	ERA09FA497
Date & Time:	09/01/2009, 1425 CDT	**Registration:**	N33PX
Aircraft:	ROBINSON R44	**Injuries:**	1 Fatal, 1 Serious
Flight Conducted Under:	Part 91: General Aviation - Other Work Use		

Analysis

The Federal Aviation Administration (FAA) Flight Standards District Office (FSDO) inspector arranged to conduct a flight as pilot in command (PIC) of the helicopter as part of his participation in the FAA's internal flight currency and proficiency program, informally referred to as the "4040 program." The PIC and the FSDO manager agreed that the flight could also serve as a familiarization flight for a newly-hired, pilot-rated FSDO inspector.

Shortly after takeoff, the PIC informed an air traffic controller that he had changed his plans, and he was cleared as requested to a nearby airport. The helicopter was observed to hover, land, and lift off for a circuit of the traffic pattern. It landed again, and began a second circuit. While on the downwind leg, the helicopter entered a descent that had a rate of approximately 2,400 feet per minute and subsequently impacted trees, terrain, and a house in a residential neighborhood.

The PIC held multiple certificates and ratings, and the vast majority of his experience was in fixed-wing aircraft. He had about 140 hours of helicopter experience, and about 60 hours in Robinson helicopters. The second pilot held multiple certificates and ratings, and had over 4,000 hours of helicopter flight experience. His most recent helicopter piloting experience was about 9 years prior to the accident. Due to certain flight and operational characteristics, the FAA mandated Robinson-specific training for pilots, via Special Federal Aviation Regulation (SFAR) 73. The accident flight was the second pilot's first flight in a Robinson helicopter, and no records of any Robinson-specific training or endorsements, including those required by SFAR 73, were located for him.
The final trajectory of the helicopter was consistent with a main rotor stall that developed when the helicopter was on the downwind leg. Post-accident examination and testing of the helicopter and components, including a full-power run of the engine, did not reveal any evidence of pre-impact failures or malfunctions. The helicopter manufacturer published notices for pilots that stated that main rotor stall due to low rotor rpm could occur rapidly, and at any airspeed, and could make "recovery virtually impossible." Other guidance noted that appropriate pilot response to an impending stall in an airplane was the opposite of the appropriate response for the helicopter, and could result in, or aggravate, rotor stall. The reason for the decay of the main rotor rpm could not be definitively determined.

Flight Events

Approach-VFR pattern downwind - Loss of control in flight
Uncontrolled descent - Collision with terr/obj (non-CFIT)

Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this accident to be:
The pilot's failure to maintain adequate main rotor rpm, for undetermined reasons.

Findings

Aircraft-Aircraft oper/perf/capability-Performance/control parameters-Prop/rotor parameters-Not attained/maintained - C
Personnel issues-Experience/knowledge-Experience/qualifications-Total experience w/ equipment-Pilot
Personnel issues-Experience/knowledge-Experience/qualifications-Recent experience w/ equipment-Pilot
Personnel issues-Task performance-Planning/preparation-(general)-FAA or designated personnel
Organizational issues-Support/oversight/monitoring-Documentation/record keeping-(general)-FAA/Regulator
Organizational issues-Support/oversight/monitoring-Safety programs-Adequacy of safety program-FAA/Regulator
Organizational issues-Support/oversight/monitoring-Oversight-Oversight of operation-FAA/Regulator
Not determined-Not determined-(general)-(general)-Unknown/Not determined - C

Pilot Information

Certificate:	Airline Transport; Flight Instructor; Flight Engineer	**Age:**	57
Airplane Rating(s):	Multi-engine Land; Single-engine Land	**Instrument Rating(s):**	
Other Aircraft Rating(s):	Helicopter	**Instructor Rating(s):**	Helicopter
Flight Time:	(Estimated) 22000 hours (Total, all aircraft), 140 hours (Total, this make and model)		

Other Flight Crew Information

Certificate:	Airline Transport; Flight Instructor; Commercial; Flight Engineer	**Age:**	59
Airplane Rating(s):	Multi-engine Land; Single-engine Land	**Instrument Rating(s):**	Airplane; Helicopter
Other Aircraft Rating(s):	Helicopter	**Instructor Rating(s):**	Airplane Multi-engine; Airplane Single-engine; Helicopter; Instrument Airplane; Instrument Helicopter
Flight Time:	16700 hours (Total, all aircraft), 0 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	ROBINSON	**Registration:**	N33PX
Model/Series:	R44	**Engines:**	1 Reciprocating
Operator:	Webb Group	**Engine Manufacturer:**	Lycoming
Air Carrier Operating Certificate:	None	**Engine Model/Series:**	O-540
Flight Conducted Under:	Part 91: General Aviation - Other Work Use		

Meteorological Information and Flight Plan

Observation Facility, Elevation:	HKS, 342 ft msl	**Weather Information Source:**	Weather Observation Facility
Conditions at Accident Site:	Visual Conditions	**Lowest Ceiling:**	None
Condition of Light:	Day	**Wind Speed/Gusts, Direction:**	8 knots, 330°
Temperature:	27°C / 14°C	**Visibility**	10 Miles
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Flowood, MS (MS90)	**Destination:**	Flowood, MS (MS90)

Airport Information

Airport:	Hawkins Field (HKS)	**Runway Surface Type:**	
Runway Used:	N/A	**Runway Surface Condition:**	
Runway Length/Width:			

Wreckage and Impact Information

Crew Injuries:	1 Fatal, 1 Serious	**Aircraft Damage:**	Substantial
Passenger Injuries:	N/A	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None

Administrative Information

Investigator In Charge (IIC):	Michael C Huhn	**Adopted Date:**	10/17/2011
Investigation Docket:	http://dms.ntsb.gov/pubdms/search/dockList.cfm?mKey=74642		

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