Aviation Investigation Final Report

Location:	Grinnell, Iowa	**Accident Number:**	CEN12LA247
Date & Time:	April 17, 2012, 11:16 Local	**Registration:**	N69HJ
Aircraft:	Hughes 269A	**Aircraft Damage:**	Substantial
Defining Event:	Ground resonance	**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The helicopter began to vibrate as the pilot raised the collective for liftoff. The pilot lowered the collective and closed the throttle when the vibration began; however, he was too late in recognizing the onset of ground resonance, which resulted in a violent, uncontrollable oscillation and separation of the tail boom from the fuselage. Examination of the helicopter revealed no anomalies 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: The pilot's improper liftoff technique, which resulted in ground resonance, and the pilot's delayed recognition of the ground resonance.

Findings

Personnel issues	Incorrect action performance - Pilot
Aircraft	(general) - Not specified
Personnel issues	Identification/recognition - Pilot

Factual Information

History of Flight

Takeoff	Ground resonance (Defining event)
Takeoff	Attempted remediation/recovery
Takeoff-rejected takeoff	Aircraft structural failure

On April 17, 2012, about 1116 central daylight time, a Hughes 269A, N69HJ, experienced ground resonance during takeoff at Grinnell Regional Airport (GGI), Grinnell, Iowa. The pilot subsequently aborted the takeoff. The commercial pilot and a passenger were uninjured. The helicopter sustained substantial damage to the fuselage. The helicopter was registered to Lowry Flying Service Inc and operated by the pilot under the provisions of 14 Code of Federal Regulations Part 91 as a personal flight. Visual meteorological conditions prevailed and a flight plan had not been filed for the local flight that was originating at the time of the accident.

The pilot stated that when he raised the collective for liftoff, the helicopter started to vibrate. He "rolled the collective down" and "throttle off," but it was too late, and the helicopter shook apart "immediately." The transmission broke severing the tail. The rotor blades hit the ground.

According to the Federal Aviation Administration inspector, the helicopter never lifted off the ground during the accident flight. The pilot experienced ground resonance on three previous flights, the first of which was during takeoff and the other two occurred during landing. During the previous three occurrences of ground resonance, the pilot was able to identify and initiate a successful recovery. During the accident flight, the pilot was too late in recognizing the onset of ground resonance. There were no mechanical anomalies that would have precluded normal operation.

Pilot Information

Certificate:	Airline transport; Commercial	**Age:**	59,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Right
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	Airplane single-engine	**Toxicology Performed:**	No
Medical Certification:	Class 2 With waivers/limitations	**Last FAA Medical Exam:**	October 3, 2011
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	January 19, 2011
Flight Time:	8692 hours (Total, all aircraft), 30 hours (Total, this make and model), 30 hours (Last 90 days, all aircraft), 4 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Hughes	**Registration:**	N69HJ
Model/Series:	269A UNDESIGNAT	**Aircraft Category:**	Helicopter
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	580869
Landing Gear Type:	Skid	**Seats:**	2
Date/Type of Last Inspection:	April 6, 2012 Annual	**Certified Max Gross Wt.:**	1670 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	3085 Hrs as of last inspection	**Engine Manufacturer:**	Lycoming
ELT:	Not installed	**Engine Model/Series:**	HIO-360-B1A
Registered Owner:	Lowry Flying Service Inc	**Rated Power:**	180 Horsepower
Operator:	Pilot	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	GGI,1008 ft msl	**Distance from Accident Site:**	0 Nautical Miles
Observation Time:	11:15 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	4 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	150°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.35 inches Hg	**Temperature/Dew Point:**	13°C / 3°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Grinnell, IA (GGI)	**Type of Flight Plan Filed:**	None
Destination:	Grinnell, IA (GGI)	**Type of Clearance:**	None
Departure Time:	11:16 Local	**Type of Airspace:**	

Airport Information

Airport:	Grinnell Regional Airport GGI	**Runway Surface Type:**	
Airport Elevation:	1008 ft msl	**Runway Surface Condition:**	
Runway Used:		**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	None

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 None	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 None	**Latitude, Longitude:**	41.709999,-92.736114(est)

Administrative Information

Investigator In Charge (IIC):	Gallo, Mitchell
Additional Participating Persons:	Tony Will; Federal Aviation Administration; Des Moines, IA
Original Publish Date:	August 13, 2013
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=83415