



National Transportation Safety Board Aviation Accident Data Summary

Location:	RUSSELL, MA	Accident Number:	NYC89DNE01
Date & Time:	12/02/1988, 1015 EST	Registration:	N163B
Aircraft:	BELL 47D1	Injuries:	1 Fatal
Flight Conducted Under:	Part 91: General Aviation - Instructional		

Analysis

THE BELL 47D1 WAS ON A SOLO X-COUNTRY FLIGHT WITH A COMMERCIAL RATED (NON-ROTORCRAFT RATED) PILOT WHO WAS WORKING ON HIS ROTORCRAFT RATING. THE HELICOPTER CRASHED IN A WOODED AREA WITH DEBRIS SPREAD ALONG THE FLIGHT PATH FOR OVER 1/4 MILE. POST CRASH EXAMINATION SHOWED THAT ONE STABILIZER BAR WAS MISSING FROM THE ROTOR HEAD AND HAD FAILED OPPOSITE THE DIRECTION OF ROTATION. THE STABILIZER BAR WAS NOT RECOVERED. THERE WAS EVIDENCE OF BLADE FLAPPING AND LOW ROTOR RPM CONDITIONS. NO EVIDENCE OF A FAILURE ON THE FLIGHT CONTROL SYSTEM, OTHER THAN THE MISSING STABILIZER CONTROL BAR WAS FOUND. NO EVIDENCE OF A ENGINE FAILURE WAS NOTED, ALTHOUGH CONDITIONS WERE PRESENT FOR THE FORMATION OF CARBURETOR ICE.

Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A PILOT INDUCED LOW ROTOR RPM CONDITION, FOLLOWED BY BLADE FLAPPING AS THE MAIN ROTOR BLADE CONTACTED THE TAIL OF THE HELICOPTER.

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: CRUISE

Findings

1. (C) ROTORCRAFT FLIGHT CONTROLS - IMPROPER USE OF - PILOT IN COMMAND
2. (C) ROTOR RPM - NOT MAINTAINED - PILOT IN COMMAND
3. AIRCRAFT HANDLING - NOT POSSIBLE - PILOT IN COMMAND

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Findings

4. TERRAIN CONDITION - HIGH VEGETATION

Pilot Information

Certificate:	Flight Instructor; Commercial	Age:	46
Airplane Rating(s):	Multi-engine Land; Single-engine Land; Single-engine Sea	Instrument Rating(s):	Airplane
Other Aircraft Rating(s):	None	Instructor Rating(s):	Airplane Single-engine; Instrument Airplane
Flight Time:	1218 hours (Total, all aircraft), 42 hours (Total, this make and model), 21 hours (Last 90 days, all aircraft), 9 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	BELL	Registration:	N163B
Model/Series:	47D1 47D1	Engines:	1 Reciprocating
Operator:	ASSOCIATED AIR SERVICES, INC.	Engine Manufacturer:	FRANKLIN
Operating Certificate(s) Held:	None	Engine Model/Series:	6V-335-A
Flight Conducted Under:	Part 91: General Aviation - Instructional		

Meteorological Information and Flight Plan

Conditions at Accident Site:	Unknown	Condition of Light:	Day
Observation Facility, Elevation:	BAF, 271 ft msl	Weather Information Source:	Witness
Lowest Ceiling:	Unknown / 3000 ft agl	Wind Speed/Gusts, Direction:	13 knots / , 300°
Temperature:	0° C	Visibility	35 Miles
Precipitation and Obscuration:			
Departure Point:	WESTFIELD, MA (BAF)	Destination:	GRT. BARRINGTON, MA (GBR)

Airport Information

Airport:	UNKNOWN	Runway Surface Type:	
Runway Used:	0	Runway Surface Condition:	
Runway Length/Width:			

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Latitude, Longitude:			

Administrative Information

Investigator In Charge (IIC): JAMES W GEBRYEL Adopted Date: 06/11/1990

Investigation Docket: NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinq@ntsb.gov, or at 800-877-6799. Dockets released after this date are available at <http://dms.nts.gov/pubdms/>.

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