



National Transportation Safety Board Aviation Accident Final Report

Location:	Pompano Beach, FL	Accident Number:	MIA05CA002
Date & Time:	10/02/2004, 1630 EDT	Registration:	N220CK
Aircraft:	Robinson R-22	Aircraft Damage:	Substantial
Defining Event:		Injuries:	2 Minor

Flight Conducted Under: Part 91: General Aviation - Instructional

Analysis

The flight instructor stated that he and his student were on their fourth or fifth autorotation, and it looked as if they were going to overshoot the spot of intended landing, so they performed some "S" turns, and initiated a flare. He said during the flare the helicopter continued to descend, and it impacted the ground on the rear of the skids, severing the tail boom.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The flight crew's excessive descent rate during landing, resulting in a hard landing, and the tail boom being severed.

Findings

Occurrence #1: HARD LANDING
Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings

1. FLARE - MISJUDGED - PILOT IN COMMAND
2. (C) DESCENT - EXCESSIVE - FLIGHTCREW
3. MISC ROTORCRAFT,MAIN ROTOR/TAIL BOOM CONTACT

Factual Information

Flight Instructor Information

Certificate:	Flight Instructor; Commercial	Age:	30, Male
Airplane Rating(s):	None	Seat Occupied:	
Other Aircraft Rating(s):	Helicopter	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Helicopter	Second Pilot Present:	Yes
Instructor Rating(s):	Helicopter	Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	02/09/2004
Occupational Pilot:		Last Flight Review or Equivalent:	06/01/2003
Flight Time:	1560 hours (Total, all aircraft), 1150 hours (Total, this make and model), 1500 hours (Pilot In Command, all aircraft), 265 hours (Last 90 days, all aircraft), 85 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Student Pilot Information

Certificate:	Student	Age:	52, Male
Airplane Rating(s):	None	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	None	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 Valid Medical--w/ waivers/lim.	Last FAA Medical Exam:	12/01/2003
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	147 hours (Total, all aircraft), 100 hours (Total, this make and model), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Robinson	Registration:	N220CK
Model/Series:	R-22	Aircraft Category:	Helicopter
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	3067
Landing Gear Type:	Skid	Seats:	2
Date/Type of Last Inspection:	09/11/2004, 100 Hour	Certified Max Gross Wt.:	1370 lbs
Time Since Last Inspection:	53 Hours	Engines:	1 Reciprocating
Airframe Total Time:	3343 Hours at time of accident	Engine Manufacturer:	Lycoming
ELT:	Not installed	Engine Model/Series:	O-360-J2A
Registered Owner:	Helicopters of America	Rated Power:	145 hp
Operator:	Helicopters of America	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	PMP, 18 ft msl	Distance from Accident Site:	
Observation Time:	1633 EDT	Direction from Accident Site:	
Lowest Cloud Condition:	Scattered / 2000 ft agl	Visibility	10 Miles
Lowest Ceiling:	Broken / 3500 ft agl	Visibility (RVR):	
Wind Speed/Gusts:	12 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	100°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.06 inches Hg	Temperature/Dew Point:	28° C / 24° C
Precipitation and Obscuration:			
Departure Point:	Pompano Beach, FL (PMP)	Type of Flight Plan Filed:	None
Destination:	(PMP)	Type of Clearance:	None
Departure Time:	1625 EDT	Type of Airspace:	Class D

Airport Information

Airport:	Runway Surface Type:
Airport Elevation:	Runway Surface Condition:
Runway Used:	IFR Approach:
Runway Length/Width:	VFR Approach/Landing:

Wreckage and Impact Information

Crew Injuries:	2 Minor	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 Minor	Latitude, Longitude:	26.246944, -80.111111

Administrative Information

Investigator In Charge (IIC): John W Lovell **Report Date:** 12/28/2004

Additional Participating Persons: Ray Lleres; Fort Lauderdale, Florida

Publish Date:

Note: This accident report documents the factual circumstances of this accident as described to the NTSB.

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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The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).