



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

# Aviation Investigation Final Report

<b>Location:</b>	Boise, Idaho	<b>Accident Number:</b>	SEA05CA182
<b>Date &amp; Time:</b>	August 27, 2005, 14:45 Local	<b>Registration:</b>	N845SH
<b>Aircraft:</b>	Robinson R22 Beta	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	2 Minor
<b>Flight Conducted Under:</b>	Part 91: General aviation - Instructional		

## Analysis

The instructor pilot reported that he and the student pilot were practicing power recovery autorotations at the Boise airport. During the tenth practice autorotation, with the student pilot on the controls, the instructor noted a lower than normal main rotor RPM (approximately 94 percent) and elected to take the controls in an effort to make the necessary inputs to recover from the maneuver. The instructor pilot reported that during the transition (approximately 60 feet agl), there was a "struggle" for the controls and corrective action was delayed resulting in a hard landing and substantial damage to the helicopter. The instructor pilot stated that he does not recall verbalizing the transfer of control to the student pilot.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: Inadequate communications between the certified flight instructor and student pilot, and the student pilot's delay in relinquishing controls resulting in a hard landing during a practice autorotation.

## Findings

Occurrence #1: HARD LANDING  
Phase of Operation: MANEUVERING

#### Findings

1. (C) COMMUNICATIONS - INADEQUATE - PILOT IN COMMAND(CFI)
2. REMEDIAL ACTION - DELAYED - PILOT IN COMMAND(CFI)
3. (C) RELINQUISHING OF CONTROL - DELAYED - DUAL STUDENT

## Factual Information

On August 27, 2005, about 1445 mountain daylight time, a Robinson R22 Beta helicopter, N3825, sustained substantial damage subsequent to a hard landing following a practice autorotation at the Boise Air Terminal, Boise, Idaho. The helicopter is owned by Silver State Helicopters of North Las Vegas, and was being operated as a visual flight rules (VFR) instructional flight under Title 14 CFR Part 91, when the accident occurred. The certified flight instructor, and student pilot receiving helicopter training, were not injured. Visual meteorological conditions prevailed, and no flight plan was filed for the local instructional flight. The flight originated from Boise, Idaho, approximately one hour prior to the accident.

In a written statement dated August 27, 2005, and subsequent telephone conversation with the NTSB IIC, the instructor pilot reported he and the student pilot were practicing power recovery autorotations at the Boise airport. During the tenth practice autorotation, with the student pilot on the controls, the instructor noted a lower than normal main rotor RPM (approximately 94 percent) and elected to take the controls in an effort to make the necessary inputs to recover from the maneuver. The instructor pilot reported that during the transition (approximately 60 feet agl), there was a "struggle" for the controls and corrective action was delayed resulting in a hard landing and substantial damage to the helicopter.

The instructor pilot stated that he does not recall verbalizing the transfer of control to the student pilot.

### Pilot Information

<b>Certificate:</b>	Commercial; Flight instructor	<b>Age:</b>	30, Male
<b>Airplane Rating(s):</b>	Single-engine land	<b>Seat Occupied:</b>	
<b>Other Aircraft Rating(s):</b>	Helicopter	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>		<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 2	<b>Last FAA Medical Exam:</b>	August 1, 2005
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	506 hours (Total, all aircraft), 444 hours (Total, this make and model)		

## Student pilot Information

<b>Certificate:</b>	Student	<b>Age:</b>	36,Male
<b>Airplane Rating(s):</b>	None	<b>Seat Occupied:</b>	
<b>Other Aircraft Rating(s):</b>	Helicopter	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>		<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 2	<b>Last FAA Medical Exam:</b>	March 1, 2005
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>			

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Robinson	<b>Registration:</b>	N845SH
<b>Model/Series:</b>	R22 Beta	<b>Aircraft Category:</b>	Helicopter
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	3825
<b>Landing Gear Type:</b>	Skid	<b>Seats:</b>	
<b>Date/Type of Last Inspection:</b>		<b>Certified Max Gross Wt.:</b>	
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>		<b>Engine Manufacturer:</b>	Lycoming
<b>ELT:</b>		<b>Engine Model/Series:</b>	O-360-J2A
<b>Registered Owner:</b>	Silver State Helicopters, LLC	<b>Rated Power:</b>	
<b>Operator:</b>		<b>Operating Certificate(s) Held:</b>	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:		Visibility	
Lowest Ceiling:		Visibility (RVR):	
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	/
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	
Precipitation and Obscuration:			
Departure Point:	BOISE, ID (BOI )	Type of Flight Plan Filed:	None
Destination:	Boise, ID (BOI )	Type of Clearance:	None
Departure Time:		Type of Airspace:	

## Airport Information

Airport:	BOISE AIR TERMINAL /GOWEN FLD/ BOI	Runway Surface Type:	
Airport Elevation:		Runway Surface Condition:	
Runway Used:	27	IFR Approach:	Practice;Visual
Runway Length/Width:		VFR Approach/Landing:	

## Wreckage and Impact Information

Crew Injuries:	2 Minor	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	
Total Injuries:	2 Minor	Latitude, Longitude:	43.564445,-116.222778

## Administrative Information

**Investigator In Charge (IIC):** Hogenson, Dennis

**Additional Participating Persons:**

**Original Publish Date:** December 20, 2005

**Last Revision Date:**

**Investigation Class:** [Class](#)

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

**Investigation Docket:** <https://data.nts.gov/Docket?ProjectID=62347>

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