Aviation Investigation Final Report

Location:	Caldwell, Idaho	**Accident Number:**	WPR10CA442
Date & Time:	August 31, 2010, 16:30 Local	**Registration:**	N1534C
Aircraft:	Schweizer 269C	**Aircraft Damage:**	Substantial
Defining Event:	Loss of control in flight	**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The purpose of the flight was for the helicopter-rated instructor pilot receiving instruction to become more familiar with the accident make and model helicopter. The intention of the flight instructor giving instruction was to demonstrate an autorotation on takeoff at low altitude, with the student following along on the controls. After ascending to an altitude of about 150 feet and an airspeed of about 50 knots, the instructor explained to the student that he was going to lower collective, but would not add cyclic to maintain airspeed. The instructor stated, “I lowered collective and could feel him [the student] on the collective, so I knew he was there. I then put right pedal in, split the needles, and then felt him [the student] pull back on the cyclic and pull up on the collective. I said ‘…no, push down,’ and I forced the cyclic forward.” The flight instructor said that the rotor RPM had by then decayed outside of normal parameters and that the student kept pulling up on the collective. “I tried to roll on power and force the cyclic forward, but we were descending too fast.” The student stated that during the demonstration he looked down at the rotor RPM and noticed that it was about 320 RPM, and that it stayed that low as the helicopter approached the ground. The student stated that he repeatedly told him [the flight instructor giving instruction] “low RPM" at least 5 times. The student added that after the hard landing the instructor told him that he [the student] had grabbed the controls because the helicopter didn’t pitch forward like he had intended it to do. The student stated, “I told him I hadn’t touched any of the controls and the reason he had no control was probably because the rotor RPM was so low.” An examination of the airframe by a Federal Aviation Administration inspector did not reveal any pre-impact anomalies. Additionally, neither pilot reported a malfunction of the airframe or engine.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The failure of both pilots to maintain adequate main rotor RPM, the flight instructor's delayed remedial actions, and inadequate supervision of the flight.

Findings

Aircraft	Prop/rotor parameters - Not attained/maintained
Personnel issues	Monitoring other person - Instructor/check pilot
Personnel issues	Delayed action - Instructor/check pilot

Factual Information

History of Flight

Approach	Loss of control in flight (Defining event)
Approach	Attempted remediation/recovery
Landing-flare/touchdown	Hard landing

Pilot Information

Certificate:	Commercial; Flight instructor	**Age:**	43,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Right
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	
Instrument Rating(s):	Helicopter	**Second Pilot Present:**	
Instructor Rating(s):	Helicopter; Instrument helicopter	**Toxicology Performed:**	No
Medical Certification:	Class 1 Without waivers/limitations	**Last FAA Medical Exam:**	October 13, 2009
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	July 7, 2010
Flight Time:	427 hours (Total, all aircraft), 380 hours (Total, this make and model)		

Student pilot Information

Certificate:	Commercial; Flight instructor	**Age:**	25,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Right
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	
Instructor Rating(s):	Helicopter	**Toxicology Performed:**	No
Medical Certification:	Class 2	**Last FAA Medical Exam:**	
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	
Flight Time:	270 hours (Total, all aircraft), 7 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Schweizer	**Registration:**	N1534C
Model/Series:	269C UNDESIGNAT	**Aircraft Category:**	Helicopter
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	S1877
Landing Gear Type:	Skid	**Seats:**	3
Date/Type of Last Inspection:	July 11, 2010 Annual	**Certified Max Gross Wt.:**	2050 lbs
Time Since Last Inspection:	55 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	2348 Hrs at time of accident	**Engine Manufacturer:**	Lycoming
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	HIO-360 D1A
Registered Owner:	Elkhorn Aviation Inc. dba Baker Aircraft	**Rated Power:**	
Operator:	Elkhorn Aviation Inc. dba Baker Aircraft	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	EUL,2432 ft msl	**Distance from Accident Site:**	
Observation Time:	16:35 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	6 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	100°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.09 inches Hg	**Temperature/Dew Point:**	21°C / 4°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Caldwell, ID (EUL)	**Type of Flight Plan Filed:**	Unknown
Destination:	Caldwell, ID (EUL)	**Type of Clearance:**	None
Departure Time:		**Type of Airspace:**	

Airport Information

Airport:	Caldwell Industrial EUL	**Runway Surface Type:**	Asphalt
Airport Elevation:	2432 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	12	**IFR Approach:**	None
Runway Length/Width:	5500 ft / 100 ft	**VFR Approach/Landing:**	Simulated forced landing

Wreckage and Impact Information

Crew Injuries:	2 None	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 None	**Latitude, Longitude:**	43.641944,-116.635833(est)

Administrative Information

Investigator In Charge (IIC):	Little, Thomas
Additional Participating Persons:	Keith Rittenberry; Federal Aviation Administration; Boise, ID
Original Publish Date:	December 20, 2010
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.ntsb.gov/Docket?ProjectID=77159