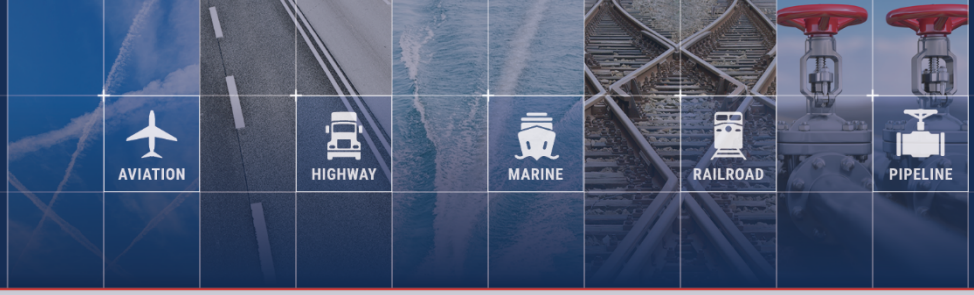

Aviation Investigation Final Report

Location:	Mount Holly, New Jersey	**Accident Number:**	IAD05LA112
Date & Time:	July 31, 2005, 10:45 Local	**Registration:**	N399HF
Aircraft:	Schweizer 269C	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	2 Minor
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

Prior to the helicopter instructional flight, the flight instructor and the student pilot discussed a loss of engine power during takeoff. The student pilot, who had not previously performed the maneuver, thought the flight instructor was going to demonstrate it. During the flight, while the helicopter was climbing through 400-500 feet, the flight instructor advised the student of the pending simulated engine failure, and "rolled down" the throttle. The helicopter commenced an autorotation, with the flight instructor thinking the student pilot was at the controls, and the student pilot thinking the flight instructor was at the controls. During the autorotation, when the helicopter appeared to be headed for some trees, "the collective was raised to extend the glide, but the rotor rpm was decreasing and the forward airspeed had slowed also." The helicopter cleared the trees, but at 60 feet above the ground, the rotor rpm was below the power off range. The flight instructor then "got on the controls, lowered the collective, rolled on the throttle, and flared the helicopter." The helicopter continued its descent, the tail hit the ground, and the helicopter impacted the ground in a level attitude, then rolled over.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The flight instructor's delayed remedial action. A factor was the flight instructor's failure to ensure that both pilots knew who was performing the maneuver.

Findings

Occurrence #1: MISCELLANEOUS/OTHER
Phase of Operation: DESCENT

Findings
1. (F) PROCEDURES/DIRECTIVES - INADEQUATE - PILOT IN COMMAND(CFI)

Occurrence #2: HARD LANDING
Phase of Operation: DESCENT

Findings
2. (C) REMEDIAL ACTION - DELAYED - PILOT IN COMMAND(CFI)

Factual Information

On July 31, 2005, about 1045 eastern daylight time, a Schweizer 269C, N399HF, was substantially damaged during a training maneuver at South Jersey Regional Airport (VAY), Mount Holly, New Jersey. The certificated flight instructor and student pilot incurred minor injuries. Visual meteorological conditions prevailed, and no flight plan had been filed for the local flight, which originated at the airport. The instructional flight was conducted under 14 CFR Part 91.

According to the flight instructor, they had been flying for about 45 minutes when "the student was informed that we were doing forced landings." During the takeoff climb, about 500 feet, the flight instructor rolled down the throttle, and the student entered an autorotation. "The glide was good," but the helicopter headed toward a line of trees, so the student turned it to the right, toward an open field. "The collective was raised to extend our glide, but the rotor rpm was decreasing and the forward airspeed had slowed also." The helicopter cleared the trees, but "at this point, the rotor rpm was below the power off range [and] the helicopter was approximately 60 feet agl." The flight instructor then "got on the controls, lowered the collective, rolled on the throttle, and flared the helicopter." The helicopter continued its descent, the tail hit the ground, and the helicopter subsequently impacted the ground in a level attitude, then rolled over.

According to the student pilot, before the flight, he and the instructor were discussing his upcoming "check ride." They discussed an engine failure during takeoff, which the student pilot had not previously practiced, and the flight instructor advised him that he would demonstrate it.

Before the maneuver occurred, the student pilot was at the controls, and when he had last noticed, the helicopter was headed straight, about 250 feet msl, and 30 knots of airspeed. The helicopter was climbing, and the flight instructor stated that he was "cutting the throttle." At the time, the student thought that the instructor was going to demonstrate the maneuver.

After the throttle cut, at what the student estimated was then 350 to 400 feet msl, the helicopter started "descending at a very steep rate." The student pilot thought they were going to hit some trees, so he advised the instructor, "and he did not immediately react." About 2 seconds later, the instructor stated "oh", and the student pilot "noticed [that] he tried to miss the trees and glide forward, and all I could see was our aircraft descending into the ground."

The student pilot also stated that the flight instructor had the controls during the maneuver, and that the student pilot was not in control of the helicopter when the throttle was cut. The flight instructor "never explained where we were going to land on this maneuver or where it was going was going to take place. All [he] said was that he was going to show me how the

maneuver was performed."

Flight instructor Information

Certificate:	Commercial; Flight instructor	**Age:**	28,Male
Airplane Rating(s):	None	**Seat Occupied:**	Left
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	
Instrument Rating(s):	Helicopter	**Second Pilot Present:**	Yes
Instructor Rating(s):	Helicopter; Instrument helicopter	**Toxicology Performed:**	No
Medical Certification:	Class 2	**Last FAA Medical Exam:**	June 1, 2005
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	February 1, 2004
Flight Time:	1380 hours (Total, all aircraft), 1302 hours (Total, this make and model), 1332 hours (Pilot In Command, all aircraft), 178 hours (Last 90 days, all aircraft), 49 hours (Last 30 days, all aircraft)		

Student pilot Information

Certificate:	Student	**Age:**	57,Male
Airplane Rating(s):	None	**Seat Occupied:**	Right
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 2	**Last FAA Medical Exam:**	November 1, 2004
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	95 hours (Total, all aircraft), 95 hours (Total, this make and model), 47 hours (Last 90 days, all aircraft), 25 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Schweizer	**Registration:**	N399HF
Model/Series:	269C	**Aircraft Category:**	Helicopter
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	0176
Landing Gear Type:	Skid	**Seats:**	2
Date/Type of Last Inspection:	July 1, 2005 100 hour	**Certified Max Gross Wt.:**	1750 lbs
Time Since Last Inspection:	45 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	8166 Hrs at time of accident	**Engine Manufacturer:**	Lycoming
ELT:	Not installed	**Engine Model/Series:**	HIO-360
Registered Owner:	Herlihy Helicopters, Inc.	**Rated Power:**	180 Horsepower
Operator:		**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	VAY	**Distance from Accident Site:**	
Observation Time:	10:54 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:	Few / 3000 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	6 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	80°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.2 inches Hg	**Temperature/Dew Point:**	27°C / 19°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Mount Holly , NJ (VAY)	**Type of Flight Plan Filed:**	None
Destination:		**Type of Clearance:**	None
Departure Time:	10:00 Local	**Type of Airspace:**	

Airport Information

Airport:	South Jersey Regional VAY	**Runway Surface Type:**	Asphalt
Airport Elevation:	53 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	8	**IFR Approach:**	None
Runway Length/Width:	3911 ft / 50 ft	**VFR Approach/Landing:**	Full stop;Simulated forced landing

Wreckage and Impact Information

Crew Injuries:	2 Minor	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Minor	**Latitude, Longitude:**	39.942779,-74.845558

Administrative Information

Investigator In Charge (IIC):	Cox, Paul
Additional Participating Persons:	Robert Drapala; FAA/FSDO; Philadelphia, PA
Original Publish Date:	March 28, 2006
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=62087