Aviation Investigation Final Report

Location:	SALEM, Illinois	**Accident Number:**	CHI99LA033
Date & Time:	November 23, 1998, 12:45 Local	**Registration:**	N2291U
Aircraft:	Brantly Helicopter B2B	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation		

Analysis

A Brantly-B2B helicopter was substantially damaged during landing on a recreational pilot certificate check ride when the pilot-in-command attempted a hovering autorotation from an altitude of approximately 2-1/2 to 3 feet. The pilot reported, '...We touched down level with a slight left side drift. I was beginning to pull the collective after touch down when the helicopter rotated about the left skid.' The Federal Aviation (FAA) Inspector conducting the check ride reported, '...I briefed (the pilot) that I would be near the controls during the maneuver'. During the maneuver, the helicopter drifted to the left and contacted the ground with its left skid. The helicopter then rolled over. The FAA Inspector stated that he did not have any flight time in a Brantly-B2B. Inspection of the helicopter revealed no mechanical anomalies.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The simulated emergency procedure by the pilot-in-command. Additional causes were the directional control not obtained/maintained by the pilot-in-command and the inadequate supervision by the Federal Aviation Administration (FAA) Inspector. A contributing factor was the FAA Inspector's lack of familiarity with the aircraft.

Findings

Occurrence #1: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings
1. (C) EMERGENCY PROCEDURE - SIMULATED - PILOT IN COMMAND
2. (C) DIRECTIONAL CONTROL - NOT OBTAINED/MAINTAINED - PILOT IN COMMAND
3. (C) SUPERVISION - INADEQUATE - FAA INSPECTOR
4. (F) LACK OF FAMILIARITY WITH AIRCRAFT - FAA INSPECTOR

Occurrence #2: ROLL OVER
Phase of Operation: OTHER

Factual Information

On November 23, 1998, at 1245 central standard time, a Brantly-B2B, N2291U, piloted by an airline transport pilot, received substantial damage on impact with terrain. Visual meteorological conditions prevailed at the time of the accident. The CFR Part 91 recreational certificate check ride was not operating on a flight plan. The Federal Aviation Administration (FAA) Inspector conducting the check ride was an inspector from the St. Louis Flight Standards District Office located in St. Ann, Missouri. The pilot and the FAA Inspector reported no injuries. The flight originated from Salem-Leckrone Airport, Salem, Illinois at 1215.

A witness reported that the pilot demonstrated an engine failure from hover and upon touch down, with little drift, the helicopter began to pivot on the left skid and continued to roll until the blades impacted the ground.

The pilot reported that the FAA Inspector arrived at about 0915 to conduct the check ride. The pilot further reported that at the beginning of the oral portion of the examination, it was discovered that he needed 1.5 hours of solo flight time to complete the required experience which was then completed by approximately 1130 at which time the oral examination was continued and completed. In a written statement, the pilot stated, "...We began the flight check by discussing what we would do during the flight as to maneuvers, who would be flying, etc. We began with a normal lift off - hovering to a grassy area on the airport. We completed some pedal turns and had landed to discuss how we were to demonstrate a hovering auto rotation. The examiner instructed me to tell him what I would do as we performed the maneuver (stationary hover, roll off throttle, right pedal, cushion landing with collective, hold a/c lever with cyclic). I told him exactly when I would cut power and proceed to demonstrate with him near the controls. We touched down level with a slight left side drift. I was beginning to pull the collective after touch down when the helicopter rotated about the left skid." The pilot then added that the rotor struck the ground within a second or so.

In a written statement, the FAA Inspector stated, "...All briefings were conducted prior to flight to include that he was the PIC (pilot-in-command) and I was an observer/evaluator. Pick up to a hover and one landing was satisfactory along with sideward flight, fore-aft and 360 degree hovering turns. Upon completion of the initial hover work, the aircraft was landed to check the suitability of the landing site. While we were on the ground we discussed the hovering auto with regards to his training and no known problems were noted. I briefed (the pilot) that I would be near the controls during the maneuver. The aircraft was brought to a hover of approximately 2-1/2 - 3 feet and like was briefed, (the pilot) reduced the throttle and the aircraft began to settle. It wasn't until near ground contact that a left drift was noted by myself with the aircraft making ground contact left skid first causing a roll-over condition."

The FAA Inspector received a recurrent check ride on October 16, 1998 in a Robinson R-22.

The inspector reported that he did not have any flight time in the make and model of the aircraft used during the accident check ride.

The Director of the National Transportation Safety Board's North Central Regional Office and the Investigator-In-Charge of the accident made numerous verbal requests to the FAA Inspector for a record of flight experience. The requests went unfulfilled, and a certified letter was then sent to the FAA Inspector requesting that he provide the requested information. The letter also went unfulfilled.

FAA Order 8700.1 CHG 8 states, under Section 2, Inspector Status During Practical Test, "B. Advice and Assistance. The Inspector conducting the practical test may occasionally find it necessary to give advice or assistance to an applicant during a test..."

An inspection of the helicopter by the Federal Aviation Administration revealed no mechanical anomalies.

Pilot Information

Certificate:	Airline transport; Commercial	**Age:**	53,Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	**Seat Occupied:**	Right
Other Aircraft Rating(s):	Glider; Gyroplane	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 2 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	November 6, 1998
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	
Flight Time:	16018 hours (Total, all aircraft), 23 hours (Total, this make and model), 15630 hours (Pilot In Command, all aircraft), 120 hours (Last 90 days, all aircraft), 30 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Brantly Helicopter	**Registration:**	N2291U
Model/Series:	B2B B2B	**Aircraft Category:**	Helicopter
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	462
Landing Gear Type:	Skid	**Seats:**	2
Date/Type of Last Inspection:	November 6, 1998 Annual	**Certified Max Gross Wt.:**	1670 lbs
Time Since Last Inspection:	5 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	1406 Hrs	**Engine Manufacturer:**	Lycoming
ELT:	Not installed	**Engine Model/Series:**	IVO-360-A1A
Registered Owner:	BRETT A SULLIVAN	**Rated Power:**	180 Horsepower
Operator:		**Operating Certificate(s) Held:**	None
Operator Does Business As:		**Operator Designator Code:**	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	MVN ,480 ft msl	**Distance from Accident Site:**	20 Nautical Miles
Observation Time:	12:33 Local	**Direction from Accident Site:**	165°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	10 knots / 17 knots	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	240°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	18°C / 10°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	(SLO)	**Type of Flight Plan Filed:**	None
Destination:		**Type of Clearance:**	
Departure Time:	12:15 Local	**Type of Airspace:**	Class G

Airport Information

Airport:	SALEM LACKRONE SLO	**Runway Surface Type:**	
Airport Elevation:	571 ft msl	**Runway Surface Condition:**	Vegetation
Runway Used:	0	**IFR Approach:**	
Runway Length/Width:		**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:**	38.619712,-88.950881(est)

Administrative Information

Investigator In Charge (IIC):	Gallo, Mitchell
Additional Participating Persons:	ROBERT D CONWAY; SPRINGFIELD , IL
Original Publish Date:	November 29, 2000
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=45342