



Aviation Investigation Final Report

Location:	PLYMOUTH, Indiana	Accident Number:	CHI90LA020
Date & Time:	October 29, 1989, 08:05 Local	Registration:	N500CD
Aircraft:	BELL 47G-2A-1	Aircraft Damage:	Substantial
Defining Event:		Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

DURING A BIENNIAL FLT REVIEW (BFR) FOR THE LEFT SEAT PLT, SVRL PRACTICE AUTOROTATIONS WERE PERFORMED. THE CFI (RIGHT SEAT PLT) RPRTD THAT THE BFR WAS PROGRESSING VERY WELL UNTIL THE HELICOPTER TOUCHED DOWN ON A SOD TAXIWAY AFTER THE FINAL AUTOROTATION. HE RPRTD THE TOUCHDOWN WAS SOFT, BUT IMMEDIATELY AFTER TOUCHDOWN, AFT CYCLIC WAS APPLIED . . . THE MAIN ROTOR BLADES CAME IN CONTACT WITH THE TAIL BOOM & SEVERED IT. THE CFI RPRTD THE ACCIDENT WAS UNEXPECTED & OCCURRED SO QUICKLY THAT HE WAS UNABLE TO INTERVENE. THE BFR PLT HAD A TOTAL FLT TIME OF 344 HRS WITH 310 HRS IN THIS MAKE & MODEL. THE CFI STATED THE WX WAS CLEAR WITH CALM WINDS.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: THE STUDENT'S IMPROPER USE OF THE CYCLIC CONTROL AND THE INSTRUCTOR'S (CFI'S) INADEQUATE SUPERVISION.

Findings

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

Findings

1. AUTOROTATION - PERFORMED - DUAL STUDENT

2. (C) CYCLIC - IMPROPER USE OF - DUAL STUDENT
3. (C) SUPERVISION - INADEQUATE - PILOT IN COMMAND(CFI)

Factual Information

Pilot Information

Certificate:	Airline transport; Flight instructor	Age:	45, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	Helicopter	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Helicopter; Instrument airplane	Toxicology Performed:	No
Medical Certification:	Class 1 Valid Medical-w/ waivers/lim	Last FAA Medical Exam:	July 6, 1989
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	5934 hours (Total, all aircraft), 200 hours (Total, this make and model), 4315 hours (Pilot In Command, all aircraft), 4 hours (Last 90 days, all aircraft), 2 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	BELL	Registration:	N500CD
Model/Series:	47G-2A-1 47G-2A-1	Aircraft Category:	Helicopter
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	3458
Landing Gear Type:	Skid	Seats:	2
Date/Type of Last Inspection:	March 1, 1989 Annual	Certified Max Gross Wt.:	2850 lbs
Time Since Last Inspection:	103 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	5453 Hrs	Engine Manufacturer:	LYCOMING
ELT:	Not installed	Engine Model/Series:	VO-435-A1F
Registered Owner:	MARSHALL COUNTY CIVIL DEFENSE	Rated Power:	260 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:	SBN ,790 ft msl	Distance from Accident Site:	21 Nautical Miles
Observation Time:	07:50 Local	Direction from Accident Site:	360°
Lowest Cloud Condition:	Clear	Visibility	5 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	/
Wind Direction:	0°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	8°C / 5°C
Precipitation and Obscuration:	N/A - None - Haze		
Departure Point:	PLYMOUTH , IN (52II)	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	07:05 Local	Type of Airspace:	Class G

Airport Information

Airport:	PLYMOUTH MUNI C65	Runway Surface Type:	
Airport Elevation:	796 ft msl	Runway Surface Condition:	
Runway Used:	0	IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	Full stop;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:	41.34045,-86.309104(est)

Administrative Information

Investigator In Charge (IIC):	Reeves, Jodi
Additional Participating Persons:	B. RENKEN; SOUTH BEND , IN
Original Publish Date:	June 28, 1991
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=14586

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The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).