



Aviation Investigation Final Report

Location:	BALTIMORE, Maryland	Accident Number:	BF090LA042
Date & Time:	May 13, 1990, 10:00 Local	Registration:	N4229A
Aircraft:	BELL 47D	Aircraft Damage:	Substantial
Defining Event:		Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

THE PLT WAS PRACTICING LANDINGS WHEN THE ACCIDENT OCCURRED. HE REPORTED THAT AFTER TOUCH DOWN, AS THE FORWARD MOTION OF THE HELICOPTER SLOWED, HE NOTICED THE HELICOPTER PITCHED SLIGHTLY DOWN. THE PLT STATED HE INSTINCTIVELY APPLIED AFT CYCLIC PRESSURE, CAUSING THE MAIN ROTOR BLADES TO FLEX DOWN AND SEVERE THE TAIL CONE. NO MECHANICAL MALFUNCTION WAS REPORTED.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: THE PILOT APPLIED EXCESSIVE CYCLIC CONTROL, CAUSING THE MAIN ROTOR TO FLEX AND SEVERE THE TAIL CONE.

Findings

Occurrence #1: ABRUPT MANEUVER
Phase of Operation: LANDING - ROLL

Findings

1. ROTOR DRIVE SYSTEM, TAIL ROTOR DRIVE SHAFT - SHEARED
2. (C) AIRCRAFT CONTROL - IMPROPER - PILOT IN COMMAND

Factual Information

Pilot Information

Certificate:	Airline transport; Commercial; Flight instructor	Age:	33, 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; Instrument airplane	Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medical-w/ waivers/lim	Last FAA Medical Exam:	October 12, 1989
Occupational Pilot:	UNK	Last Flight Review or Equivalent:	
Flight Time:	2878 hours (Total, all aircraft), 114 hours (Total, this make and model), 2676 hours (Pilot In Command, all aircraft), 53 hours (Last 90 days, all aircraft), 19 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	BELL	Registration:	N4229A
Model/Series:	47D 47D	Aircraft Category:	Helicopter
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	001
Landing Gear Type:	Skid	Seats:	2
Date/Type of Last Inspection:	March 8, 1990 100 hour	Certified Max Gross Wt.:	2350 lbs
Time Since Last Inspection:	79 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	2514 Hrs	Engine Manufacturer:	FRANKLIN
ELT:	Not installed	Engine Model/Series:	6V4-335
Registered Owner:	ROTORCRAFTER'S INC	Rated Power:	210 Horsepower
Operator:	JESSE G. HADAWAY	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:	BWI	Distance from Accident Site:	
Observation Time:	09:52 Local	Direction from Accident Site:	
Lowest Cloud Condition:	Scattered / 2700 ft AGL	Visibility	12 miles
Lowest Ceiling:	Unknown / 10000 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	11 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	180°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	19°C / 15°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:		Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	09:55 Local	Type of Airspace:	Class D

Airport Information

Airport:	ESSEX SKYPARK W48	Runway Surface Type:	
Airport Elevation:		Runway Surface Condition:	
Runway Used:	0	IFR Approach:	None
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:	39.390674,-76.479957(est)

Administrative Information

Investigator In Charge (IIC):	Jones, Dennis
Additional Participating Persons:	LARRY CUNNERMAN; BALTIMORE , MD
Original Publish Date:	September 4, 1992
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=11591

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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](#).