



National Transportation Safety Board Aviation Accident Final Report

Location:	CHIEFLAND, FL	Accident Number:	MIA96LA088
Date & Time:	03/01/1996, 1515 EST	Registration:	N6248X
Aircraft:	Bell 206L4	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 None
Flight Conducted Under:	Part 91: General Aviation - Business		

Analysis

The pilot stated that during cruise flight about 400 feet mean sea level he heard the engine decelerate then heard the engine-out audio. He maneuvered the helicopter for an autorotative landing in a clearing, but after observing uneven terrain he elected to zero his forward airspeed. After a hard landing the helicopter rocked forward causing the main rotor blades to contact the tailboom. Fuel quantity was sufficient to sustain engine operation and visually no contaminants were noted. The helicopter was recovered and the engine was started several times using the fuel supply in the fuel tank with no discrepancies noted. The engine was removed from the helicopter and tested at the manufacturers facility with no discrepancies noted. The power turbine governor (PTG) and the main fuel control and engine driven fuel pump were removed for bench testing. The only discrepancy noted was a failed roll pin for the throttle level stop in the PTG. The PTG manufacturer states that the failed roll pin would not effect operation of the unit.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: Improper cyclic and collective input by the pilot-in-command resulting in the hard landing during the autorotative landing. Contributing to the accident was the total loss of engine power due to undetermined reasons.

Findings

Occurrence #1: LOSS OF ENGINE POWER
Phase of Operation: CRUISE - NORMAL

Findings

1. (F) REASON FOR OCCURRENCE UNDETERMINED

Occurrence #2: HARD LANDING
Phase of Operation: EMERGENCY DESCENT/LANDING

Findings

2. (C) CYCLIC - IMPROPER - PILOT IN COMMAND
3. (C) COLLECTIVE - IMPROPER - PILOT IN COMMAND

Factual Information

On March 1, 1996, about 1515 eastern standard time, a Bell 206L4, N6248X, registered to the Bell Helicopter Textron, Inc., experienced total loss of engine power during cruise flight and was substantially damaged during an autorotative landing near Chiefland, Florida. Visual meteorological conditions (VMC) prevailed at the time and no flight plan was filed for the 14 CFR Part 91 business flight. The commercial-rated pilot, the sole occupant, was not injured. The flight originated about 1300 central standard time from the Marianna Municipal Airport, Marianna, Florida.

The pilot stated that during cruise flight about 400 feet mean sea level, in VMC, he first heard the engine decelerate then heard the engine out audio announcement. He verified that the throttle was full open then lowered the collective control for an autorotative landing. He observed a clearing and initiated a 180-degree turn but when the flight was near the ground, he observed uneven terrain and elected to zero his forward speed. The helicopter then landed hard and rocked forward, causing the main rotor blades to contact the tailboom. The helicopter had been operated for about 1.3 hours since fueling and a total of 74.8 hours since manufacture.

Postaccident examination of the helicopter by an FAA airworthiness inspector revealed sufficient fuel to sustain engine operation. Visual examination of a sample of fuel obtained from the fuel tank revealed no evidence of contamination. The helicopter was recovered and the engine was started and operated several times using the fuel supply in the fuel tank with no discrepancies noted. Vacuum test of the fuel system revealed no evidence of preimpact failure or malfunction. The engine was removed from the helicopter for further tests.

The engine was placed in a test stand at the manufacturer's facility and operated with no discrepancies noted. The engine-driven fuel pump with attached main fuel control and the power turbine governor (PTG) were removed and sent to the manufacturer's facility for bench tests which revealed no failure or malfunction that would have prevented normal engine operation. The only discrepancy noted was a sheared PTG throttle lever stop roll pin. According to Allied Signal personnel, failure of the roll pin has previously been determined to occur due to over torque of the outer lever attachment nut. The failure did not affect operation of the throttle input from the cockpit.

Review of the helicopter historical records revealed that the power turbine governor was installed on 12/15/95, and had accumulated 70.5 hours since new.

Pilot Information

Certificate:	Commercial	Age:	56, Male
Airplane Rating(s):	Single-engine Land	Seat Occupied:	Right
Other Aircraft Rating(s):	Helicopter	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane; Helicopter	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medical--w/ waivers/lim.	Last FAA Medical Exam:	10/05/1995
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	9600 hours (Total, all aircraft), 2000 hours (Total, this make and model), 9300 hours (Pilot In Command, all aircraft), 34 hours (Last 90 days, all aircraft), 12 hours (Last 30 days, all aircraft), 7 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Bell	Registration:	N6248X
Model/Series:	206L4 206L4	Aircraft Category:	Helicopter
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	52162
Landing Gear Type:	Skid	Seats:	7
Date/Type of Last Inspection:	Unknown	Certified Max Gross Wt.:	4450 lbs
Time Since Last Inspection:		Engines:	1 Turbo Shaft
Airframe Total Time:	72 Hours	Engine Manufacturer:	Allison
ELT:	Installed, not activated	Engine Model/Series:	250-C30P
Registered Owner:	BELL HELICOPTER TEXTRON, INC.	Rated Power:	650 hp
Operator:	BELL HELICOPTER TEXTRON, INC.	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	GNV, 152 ft msl	Distance from Accident Site:	34 Nautical Miles
Observation Time:	1451 EST	Direction from Accident Site:	70°
Lowest Cloud Condition:	Unknown / 0 ft agl	Visibility	2.5 Miles
Lowest Ceiling:	Overcast / 300 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	7 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	50°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	9°C / 9°C
Precipitation and Obscuration:			
Departure Point:	MARIANNA, FL (MAI)	Type of Flight Plan Filed:	None
Destination:	LAKELAND, FL (LAL)	Type of Clearance:	None
Departure Time:	1300 CST	Type of Airspace:	Class G

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC):	TIMOTHY W MONVILLE	Report Date:	02/18/1997
Additional Participating Persons:	HOOPER HARRIS; ORLANDO, FL A H BOUNDS; FORT WORTH, TX DALE A STEELE; INDIANAPOLIS, IN R A TERRY; SOUTH BEND, IN		
Publish Date:			
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinq@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

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