



National Transportation Safety Board Aviation Accident Final Report

Location:	LAKELAND, FL	Accident Number:	MIA99GA072
Date & Time:	02/02/1999, 2152 EST	Registration:	N151ES
Aircraft:	Bell OH-58C	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 Serious, 1 Minor

Flight Conducted Under: Part 91: General Aviation - Public Aircraft

Analysis

The pilot had completed his duty day and had secured the helicopter in the hangar. Another officer then came to him at the hangar and told him that another Sheriff's Department needed their assistance right away. The pilot then took the helicopter out to the pad on a dolly, that was pulled by a tug, the size of a riding lawn mower. His usual procedure was to disconnect the tug and move it out of the way. On this flight because of the urgency of the request he left the tug attached, and moved it to the left of the dolly, but not out of the way. The pilot and the officer entered the helicopter, called for departure at 2152, brought the helicopter to a hover, initiated forward flight for departure, and moved forward approximately 12 feet, when the left skid tip struck the tug. The skid became stuck under the hood approximately 6 inches from the top of the tug. The helicopter pivoted forward causing the tail boom to move up. The pilot then attempted to correct the pitch attitude change with aft cyclic input causing the main rotor to strike tail boom cutting off the vertical fin, tail rotor and gear box, plus about 5 feet of tail boom. The nose pitched down causing the main rotor to strike the ground, the helicopter spun, and rolled over coming to rest on its right side. On the day of the accident the pilot woke up at 0630, took a flight physical that was completed at 1030. He ate lunch from 1100 to 1200, and reported for duty at 1300. Prior to the accident, he had flown a total of 1.6 hours. He was scheduled to be off duty at 2200.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot-in command's failure to maintain clearance from the tug. A related factor was the induced pressure.

Findings

Occurrence #1: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: HOVER - IN GROUND EFFECT

Findings

1. (C) CLEARANCE - NOT MAINTAINED - PILOT IN COMMAND
2. PRESSURE INDUCED BY CONDITIONS/EVENTS
3. (C) AIRCRAFT CONTROL - NOT MAINTAINED - PILOT IN COMMAND
4. OBJECT - VEHICLE

Occurrence #2: NOSE OVER
Phase of Operation: HOVER - IN GROUND EFFECT

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Findings

5. TERRAIN CONDITION - GROUND

Factual Information

HISTORY OF FLIGHT

On February 2, 1999, about 2152 eastern standard time, a Bell OH-58C helicopter, N151ES, registered to the City of Lakeland Police Department, and operated as a public-use aircraft, was destroyed during liftoff, at the Lakeland Airport, Lakeland, Florida. The airline transport-rated pilot reported serious injuries and the passenger reported minor injuries. Visual meteorological conditions (VMC) prevailed in the vicinity, and no flight plan had been filed. The local flight was being conducted in accordance with Title 14 CFR Part 91. The flight was originating at the time of the accident.

According to the pilot, he had completed his duty day and had secured the helicopter in the hangar. Another officer then came to him at the hangar and said that the Polk County Sheriff needed their assistance right away. The pilot then took the helicopter out to the pad. The pilot said that his normal procedure was to take the helicopter to the pad on a dolly, and the dolly was pulled by a tractor (tug), which was about the size of a riding lawn mower. When he would get to the pad, about 25 yards from the hangar, he would disconnect the tractor and move it out of the way. On this flight because of the urgency of the request he left the tractor attached, and moved it to the left of the dolly, but not out of the way.

The pilot stated, "...aircraft was pulled out of the hangar on a dolly. Tug was left connected to [the] dolly. Pilot (police officer) and observer entered aircraft and completed pre takeoff preparation/checklist. Dew [had] formed on the windshield. Pilot called for departure...at 2152...aircraft was brought to a hover, takeoff check completed. Pilot initiated forward flight for departure heading 240 degrees. Aircraft moved forward approximately 12 feet when left skid tip struck tug, skid became stuck under hood approximately 6 inches from top of tug. Aircraft pivoted forward causing tail boom to move up, pilot attempted to correct pitch/attitude change with aft cyclic input causing main rotor to strike tail boom cutting off vertical fin, tail rotor and gear box, plus about 5 feet of tail boom. Nose pitched down causing main rotor to strike ground, rolling aircraft over as it spun...aircraft rolled to right..."

The accident occurred during the hours of darkness approximately 27 degrees, 59 minutes north, and 082 degrees, 01 minutes west.

PERSONNEL INFORMATION

Information on the pilot is contained in this report on page 3, under First Pilot Information. According to the pilot, on the day of the accident he woke up at 0630. He had a flight physical at 0900, and the physical was completed at 1030. He ate lunch from 1100 to 1200, and reported for duty at 1300. Before the accident, he had flown a total of 1.6 hours. He was scheduled to be off duty at 2200.

METEOROLOGICAL INFORMATION

Meteorological information is contained in this report on page 3, under Weather Information.

WRECKAGE INFORMATION

The helicopter came to rest in a grassy area, heading about 300 degrees, on its right side. The main rotor and transmission separated from the helicopter, and were lying about 2

feet forward of the wreckage.

Examination of the wreckage revealed that the forward section of the left skid struck and penetrated the front left side of the tractor. No discrepancies were observed on the airframe, transmission or engine. Flight control continuity was established to all the flight controls, including the servos.

The tractor displayed a hole in the front grill at the location where the left skid had made contact.

ADDITIONAL INFORMATION

The helicopter was released to Wayne Bradbury, Lakeland Police Department, on February 4, 1999.

Pilot Information

Certificate:	Airline Transport; Flight Instructor; Commercial	Age:	50, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Right
Other Aircraft Rating(s):	Helicopter	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	
Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine; Helicopter	Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medical--w/ waivers/lim.	Last FAA Medical Exam:	02/02/1999
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	10000 hours (Total, all aircraft), 4100 hours (Total, this make and model), 9000 hours (Pilot In Command, all aircraft), 81 hours (Last 90 days, all aircraft), 45 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Bell	Registration:	N151ES
Model/Series:	OH-58C OH-58C	Aircraft Category:	Helicopter
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	7015325
Landing Gear Type:	Skid	Seats:	4
Date/Type of Last Inspection:	01/29/1999, AAIP	Certified Max Gross Wt.:	3200 lbs
Time Since Last Inspection:	8 Hours	Engines:	1 Turbo Shaft
Airframe Total Time:	4800 Hours	Engine Manufacturer:	Allison
ELT:	Not installed	Engine Model/Series:	250-C20C
Registered Owner:	CITY OF LAKELAND POLICE DEPT.	Rated Power:	420 hp
Operator:	CITY OF LAKELAND POLICE DEPT.	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Night/Dark
Observation Facility, Elevation:	LAL, 144 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	2150 EST	Direction from Accident Site:	0°
Lowest Cloud Condition:	Scattered / 500 ft agl	Visibility	6 Miles
Lowest Ceiling:	Broken / 3000 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	Calm /	Turbulence Type Forecast/Actual:	/
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	19° C / 19° C
Precipitation and Obscuration:			
Departure Point:		Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	2152 EST	Type of Airspace:	

Airport Information

Airport:	LAKELAND REGIONAL (LAL)	Runway Surface Type:	
Airport Elevation:	144 ft	Runway Surface Condition:	
Runway Used:	0	IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	None

Wreckage and Impact Information

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

Administrative Information

Investigator In Charge (IIC):	ALAN J YURMAN	Report Date:	09/07/2000
Additional Participating Persons:	RICHARD K SHEPPARD; ORLANDO, FL		
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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