

# **Aviation Investigation Final Report**

Location:	Galveston, Texas	Incident Number:	DFW08IA002
Date & Time:	October 6, 2007, 08:01 Local	Registration:	N3899C
Aircraft:	BELL HELICOPTER TEXTRON 206L-1	Aircraft Damage:	Minor
Defining Event:		Injuries:	3 None
Flight Conducted Under:	Part 135: Air taxi & commuter - Non-scheduled		

### Analysis

The pilot reported that as the helicopter was accelerating through 40 to 50 knots in a slight climb, while still only about 200 feet away from the departed offshore platform, he felt and heard a "loud bang" as the tail of the helicopter yawed to the right. He added that the helicopter started to descend and he made a mayday call as he prepared for the water landing. The helicopter touched down in a nose high attitude, and the tail rotor system was reported to have contacted the water. The emergency flotation system deployed successfully and the helicopter and the passengers reported that the helicopter made a smooth water landing. A detailed follow-up engine examination was conducted at the operator's maintenance facilities. The investigation concluded that there was no evidence of distress or failure observed on any of the components of the compressor, engine gearbox, or turbine assemblies that might have accounted for the loud bang reported by the pilot and the passengers during the accident sequence. Additionally, no unresolved engine-related discrepancies were found in the examined aircraft or engine records. The operator reported that a section of a tail rotor blade was found on a beach miles from the site. The blade was verified to be from the accident helicopter. The portion of the tail rotor blade was forwarded to a lab, where further examination revealed marks on the leading edge of the blade. The marks extended approximately thirteen inches from the tip of the blade and appeared to be evenly spaced. The fracture appeared to be the result of overload. The transferred material was confirmed not to be from any part of the helicopter. The analysis of the material revealed that it was possibly the metal bindings of a notebook. The suspected 3-ring binder was not located and none of the 3 occupants of the helicopter reported losing a 3-ring binder. The manager of the offshore helideck reported that there were no lose objects of any type at the helideck and FOD sweeps are made on a routine basis. The source of the missing binder could not be established.

#### **Probable Cause and Findings**

The National Transportation Safety Board determines the probable cause(s) of this incident to be: The loss of tail rotor control during initial takeoff climb due to the fracture of a tail rotor blade as result of impact with a foreign object.

#### **Findings**

Occurrence #1: IN FLIGHT COLLISION WITH OBJECT Phase of Operation: TAKEOFF Findings 1. (C) ROTOR SYSTEM, TAIL ROTOR BLADE - FOREIGN OBJECT DAMAGE

2. (C) ROTOR SYSTEM, TAIL ROTOR BLADE - FRACTURED

Occurrence #2: FORCED LANDING

Phase of Operation: EMERGENCY DESCENT/LANDING

Findings

- 3. (C) TAIL ROTOR/ANTI-TORQUE CONTROL NOT POSSIBLE
- 4. TERRAIN CONDITION WATER
- 5. TERRAIN CONDITION NONE SUITABLE

### **Factual Information**

On October 6, 2007 at 0801 central daylight time, a single-engine Bell 206L-1 helicopter, N3899C, sustained minor damage during a forced landing to the water in the Gulf of Mexico, approximately 13miles south east of Galveston, Texas. The helicopter was registered to, and operated by Air Logistics, Inc., of New Iberia, Louisiana. The commercial pilot and two passengers were not injured. Visual meteorological conditions prevailed for the Title 14 Code of Federal Regulations (CFR) Part 135 ondemand air taxi flight for which a company flight plan was filed. The flight departed from the Galveston 190A off-shore platform, in the Gulf of Mexico, approximately 13 miles off shore from Galveston, Texas, and was destined for offshore platform HI 138, located approximately 38-miles to the northeast.

The pilot reported that as the helicopter was accelerating through 40 to 50 knots in a slight climb, while still only about 200 feet away from the departed offshore platform, he felt and heard a loud bang and the tail of the helicopter yawed to the right. He added that the helicopter started to descend and he made a mayday call as he prepared for the water landing. The helicopter touched down in a nose high attitude, and the tail rotor system was reported to have contacted the water. The Apical emergency flotation system deployed successfully and the helicopter and the passengers reported that the helicopter made a smooth water landing.

The 5,291-hour pilot instructed the passengers to stay in the aircraft as the helicopter was floating upright in a very stable attitude. The pilot assured the passengers that a rescue boat was en route to their location. The occupants stayed in the helicopter for about 10 minutes. When the rescue boat was about 300 feet away from the floating helicopter, the pilot directed the passengers to prepare to board the on-board emergency rafts. The life rafts deployed successfully and the pilot and passengers exited the helicopter.

At about 0826, the pilot and both passengers were rescued by Motor Vessel D32 Stevens, who transported them back to offshore platform Galveston 190, from where they were transported to a hospital for a medical check-up. All 3 occupants of the helicopter were examined and released.

The helicopter was reported to have rolled-over while it was being towed backwards by the rescue vessel; however, the aircraft was successfully recovered. The initial investigation was conducted by a Federal Aviation Administration (FAA) inspector on October 6, 2007. His investigation included interviews with the pilot, passengers, and base personnel at the Galveston, Texas, location.

A detailed follow-up engine examination was conducted by an FAA inspector on October 11, 2007, with the assistance of representatives from Rolls Royce and Air Logistics maintenance personnel, at the operator's maintenance facilities near New Iberia, Louisiana. The investigation concluded that there was no evidence of distress or failure observed on any to the components of the compressor, engine gearbox, or turbine assemblies, that might have accounted for the loud bang reported by the pilot and the passengers during the accident sequence. Additionally, no unresolved engine-related discrepancies were found in the examined aircraft or engine records.

The operator reported that a section of a tail rotor blade was found on a beach miles from the site. The blade was verified to be from the accident helicopter. The aircraft had already been released; however, the BTR FSDO was notified of the finding. The portion of the tail rotor blade was forwarded to a lab for examination. Paint samples from the helicopter as well as the recovery boat were also tested. The lab examination revealed that marks were found on the leading edge of the blade. Those marks extended approximately thirteen inches from the tip of the blade and appeared to be evenly spaced. The fracture appeared to be the result of overload. The transferred material was confirmed not to be from any part of the helicopter. The analysis of the material revealed that it was possibly the metal bindings of a notebook.

The suspected 3-ring binder was not located and none of the 3 occupants of the helicopter reported losing a 3-ring binder. The manager of the offshore helideck reported that there were no lose objects of any type at the helideck and FOD sweeps are made on a routine basis. The source of the missing binder could not be established.

Weather reported at Scholes International Airport (KGLS), near Galveston, Texas, at 0752, was reported as wind calm, visibility 10 statute miles, few clouds at 2200 feet and a broken cloud layer at 2900 feet, temperature 27 degrees Celsius, dew point 24 degrees Celsius, and a barometric pressure setting of 29.93 inches of Mercury. The pilot of the rescue helicopter reported that at the time he arrived at the accident site. the waves were 2 to 4 feet, with winds at approximately 8 knots.

Certificate:	Commercial	Age:	55,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane; Helicopter	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 With waivers/limitations	Last FAA Medical Exam:	January 11, 2007
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	May 4, 2007
Flight Time:	5291 hours (Total, all aircraft), 1443 hours (Total, this make and model), 4275 hours (Pilot In Command, all aircraft), 144 hours (Last 90 days, all aircraft), 42 hours (Last 30 days, all aircraft)		

#### **Pilot Information**

Aircraft	and	Owner/	<b>Operator</b>	Information
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Aircraft Make:	BELL HELICOPTER TEXTRON	Registration:	N3899C
Model/Series:	206L-1	Aircraft Category:	Helicopter
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	45596
Landing Gear Type:	Skid	Seats:	6
Date/Type of Last Inspection:	October 4, 2007 AAIP	Certified Max Gross Wt.:	4150 lbs
Time Since Last Inspection:	4 Hrs	Engines:	1 Turbo shaft
Airframe Total Time:	17783 Hrs at time of accident	Engine Manufacturer:	ALLISON
ELT:	Installed, not activated	Engine Model/Series:	250C30P
Registered Owner:	AIR LOGISTICS LLC	Rated Power:	650 Horsepower
Operator:	Air Logistics LLC, a Bristow Company	Operating Certificate(s) Held:	On-demand air taxi (135)
<b>Operator Does Business As:</b>	Air Logistics LLC	Operator Designator Code:	ALGA

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
<b>Observation Facility, Elevation:</b>	KGLS,6 ft msl	Distance from Accident Site:	13 Nautical Miles
Observation Time:	07:52 Local	Direction from Accident Site:	170°
Lowest Cloud Condition:	Few / 2200 ft AGL	Visibility	10 miles
Lowest Ceiling:	Broken / 2900 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	/ None	Turbulence Type Forecast/Actual:	/
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.93 inches Hg	Temperature/Dew Point:	27°C / 24°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Galveston, TX	Type of Flight Plan Filed:	Company VFR
Destination:	HI-138, GM	Type of Clearance:	VFR flight following
Departure Time:		Type of Airspace:	

### Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Minor
Passenger Injuries:	2 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	3 None	Latitude, Longitude:	29.249729,-94.919281(est)

#### **Administrative Information**

Investigator In Charge (IIC):	Gamble, William
Additional Participating Persons:	Thomas J Latson; Federal Aviation Administration, FSDO; Houston, TX
Original Publish Date:	December 24, 2008
Last Revision Date:	
Investigation Class:	<u>Class</u>
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=66838

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

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 <u>here</u>.