



National Transportation Safety Board Aviation Incident Data Summary

Location:	Gulf Of Mexico, GM	Incident Number:	CEN12IA096
Date & Time:	12/01/2011, 1005 CST	Registration:	N435PH
Aircraft:	BELL HELICOPTER TEXTRON CANADA 407	Injuries:	2 None
Flight Conducted Under:	Part 135: Air Taxi & Commuter - Non-scheduled		

Analysis

While maneuvering for a precautionary landing to an oil rig platform because of a chip light indication, the helicopter's engine lost power. The pilot entered an autorotation, called mayday, inflated the helicopter's floats, and performed a successful water landing. The pilot and passenger were able to exit the helicopter unassisted into a life raft and were picked up within 10 minutes. Examination and disassembly of the engine revealed the No. 2 bearing had failed. Metallurgical examination of the bearing showed the No. 2 bearing outer ring cracked in fatigue due to false brinnelling, which occurs in cases where the bearing is stationary but is subjected to ambient vibration or shock during transport. A spalling area was severe enough to propagate mechanical stress in the outer ring causing the ring to fracture. The engine compressor section was overhauled 2.7 hours before the failure.

Flight Events

Enroute - Loss of engine power (total)

Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this incident to be: The failure of the compressor section No. 2 bearing due to false brinnelling and fatigue.

Findings

Aircraft-Aircraft power plant-Engine (turbine/turboprop)-Compressor section-Failure - C

Pilot Information

Certificate:	Commercial	Age:	32
Airplane Rating(s):	None	Instrument Rating(s):	Helicopter
Other Aircraft Rating(s):	Helicopter	Instructor Rating(s):	Helicopter
Flight Time:	3848 hours (Total, all aircraft), 849 hours (Total, this make and model), 3834 hours (Pilot In Command, all aircraft), 238 hours (Last 90 days, all aircraft), 52 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	BELL HELICOPTER TEXTRON CANADA	Registration:	N435PH
Model/Series:	407	Engines:	1 Turbo Shaft
Operator:	PHI INC	Engine Manufacturer:	ROLLS-ROYC
Air Carrier Operating Certificate:	On-demand Air Taxi (135)	Engine Model/Series:	250-C47B
Flight Conducted Under:	Part 135: Air Taxi & Commuter - Non-scheduled		

Meteorological Information and Flight Plan

Observation Facility, Elevation:		Weather Information Source:	Pilot
Conditions at Accident Site:	Visual Conditions	Lowest Ceiling:	None
Condition of Light:	Day	Wind Speed/Gusts, Direction:	6 knots, 130°
Temperature:	21°C / 11°C	Visibility	10 Miles
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	EC-278C, GM	Destination:	EC-261, GM

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	None
Passenger Injuries:	1 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None

Administrative Information

Investigator In Charge (IIC):	Timothy LeBaron	Adopted Date:	04/10/2013
Investigation Docket:	http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=82447		

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