



National Transportation Safety Board Aviation Incident Data Summary

Location:	Peoria, IL	Incident Number:	CEN09IA618
Date & Time:	07/01/2009, 1815 CDT	Registration:	N880SF
Aircraft:	BELL 230	Injuries:	4 None
Flight Conducted Under:	Part 135: Air Taxi & Commuter - Non-scheduled - Air Medical (Unspecified)		

Analysis

The helicopter pilot observed a caution light for the number one hydraulic system and a corresponding complete loss of hydraulic system pressure for that system. The pilot declared an emergency and performed a run-on landing. A postincident examination of the system's hydraulic pump revealed that two of its cover attachment bolts had separated. The bolt heads fractured in tension from their shanks via intergranular cracks which initiated at the fillet radius between the bead and the shank. The bolt fractures exhibited intergranular fracture features over 90 percent of the surface. The operator's incident report safety recommendation stated that the pump's cover bolts should be replaced at overhaul; however, it is not required. The helicopter had accumulated 269 hours since overhaul.

Flight Events

Enroute - Sys/Comp malf/fail (non-power)
Landing - Off-field or emergency landing

Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this incident to be: The loss of the number one hydraulic system fluid and hydraulic pressure during cruise due to the failure of the bolts that secure the hydraulic pump's cover.

Findings

Aircraft-Aircraft systems-Hydraulic power system-Pump, main-Failure - C
Aircraft-Fluids/misc hardware-Fluids-Hydraulic fluid-Fluid level - C
Aircraft-Fluids/misc hardware-Misc hardware-Fasteners-Not specified - C

Pilot Information

Certificate:	Commercial	Age:	46
Airplane Rating(s):	Single-engine Land	Instrument Rating(s):	Helicopter
Other Aircraft Rating(s):	Helicopter	Instructor Rating(s):	None
Flight Time:	7100 hours (Total, all aircraft), 865 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	BELL	Registration:	N880SF
Model/Series:	230	Engines:	2 Turbo Shaft
Operator:	OSF AVIATION LLC	Engine Manufacturer:	Rolls Royce
Air Carrier Operating Certificate:	On-demand Air Taxi (135)	Engine Model/Series:	C30 G/2
Flight Conducted Under:	Part 135: Air Taxi & Commuter - Non-scheduled - Air Medical (Unspecified)		

Meteorological Information and Flight Plan

Observation Facility, Elevation:	PIA, 660 ft msl	Weather Information Source:	Weather Observation Facility
Conditions at Accident Site:	Visual Conditions	Lowest Ceiling:	
Condition of Light:		Wind Speed/Gusts, Direction:	
Temperature:		Visibility:	
Precipitation and Obscuration:			
Departure Point:	Peoria, IL (PIA)	Destination:	Peoria, IL (PIA)

Airport Information

Airport:	General Downing - Peoria IAP (PIA)	Runway Surface Type:	
Runway Used:	N/A	Runway Surface Condition:	
Runway Length/Width:			

Wreckage and Impact Information

Crew Injuries:	3 None	Aircraft Damage:	None
Passenger Injuries:	1 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None

Administrative Information

Investigator In Charge (IIC):	Edward F Malinowski	Adopted Date:	11/17/2011
Investigation Docket:	http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=78143		

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report.