



National Transportation Safety Board Aviation Accident Data Summary

Location:	RIVIERA, TX	Accident Number:	FTW98LA084
Date & Time:	01/02/1998, 0830 CST	Registration:	N1091Y
Aircraft:	Hughes 269C	Injuries:	2 None
Flight Conducted Under:	Part 91: General Aviation - Other Work Use		

Analysis

Following a total loss of engine power, during a cattle herding flight, the pilot executed an autorotation to an area confined by trees. Engine examination revealed a broken crankshaft & camshaft. The camshaft exhibited deformation consistent with overload. All four cylinder mounting flanges were fretted & all piston rings showed 'excessive' wear. The #1 & #4 cylinder top compression rings were broken. Main bearing saddle faces of the crankcase showed heavy fretting. The engine manufacturer Materials Laboratory reported the mode of fracture of the crankshaft was fatigue. The fatigue originated from the oil hole (between #3 main & #3 crankpin journals) in the cheek and near the rear fillet radius of the #3 main bearing journal. The cause of the fatigue was not determined. During the overhaul, the crankshaft received a magnaflux inspection & re-nitriding by an inspection facility. The engine was reassembled & returned to service by company maintenance personnel. The engine had 1150.6 hours since overhaul.

Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The total loss of engine power due to a fatigue failure of the crankshaft for undetermined reason. A factor was the lack of suitable terrain for the forced landing.

Findings

Occurrence #1: LOSS OF ENGINE POWER
Phase of Operation: MANEUVERING

Findings

1. (C) ENGINE ASSEMBLY, CRANKSHAFT - FATIGUE
2. (C) REASON FOR OCCURRENCE UNDETERMINED

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

Findings

3. (F) TERRAIN CONDITION - NONE SUITABLE
4. OBJECT - TREE(S)

Pilot Information

Certificate:	Commercial	Age:	28
Airplane Rating(s):	None	Instrument Rating(s):	None
Other Aircraft Rating(s):	Helicopter	Instructor Rating(s):	None
Flight Time:	567 hours (Total, all aircraft), 567 hours (Total, this make and model), 527 hours (Pilot In Command, all aircraft), 254 hours (Last 90 days, all aircraft), 61 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Hughes	Registration:	N1091Y
Model/Series:	269C 269C	Engines:	1 Reciprocating
Operator:	SMITH HELICOPTERS, INC.	Engine Manufacturer:	Lycoming
Operating Certificate(s) Held:	None	Engine Model/Series:	HIO-360-D1A
Flight Conducted Under:	Part 91: General Aviation - Other Work Use		

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	, 0 ft msl	Weather Information Source:	Pilot
Lowest Ceiling:	None / 0 ft agl	Wind Speed/Gusts, Direction:	5 knots / , 135°
Temperature:	20° C	Visibility	20 Miles
Precipitation and Obscuration:			
Departure Point:	Destination:		

Wreckage and Impact Information

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

Administrative Information

Investigator In Charge (IIC):	JOYCE ROACH	Adopted Date:	02/16/2001
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.ntsbt.gov/pubdms/ .		

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