



# National Transportation Safety Board Aviation Accident Data Summary

<b>Location:</b>	Telluride, CO	<b>Accident Number:</b>	CEN14FA232
<b>Date &amp; Time:</b>	05/03/2014, 1130 CDT	<b>Registration:</b>	N407MH
<b>Aircraft:</b>	BELL 407	<b>Injuries:</b>	3 None
<b>Flight Conducted Under:</b>	Part 135: Air Taxi & Commuter - Non-scheduled - Air Medical (Discretionary)		

## Analysis

The commercial pilot and two flight crewmembers were conducting a search and rescue mission for a local sheriff's department in the helicopter. The pilot reported that, after flying five or six lines of the search grid and while in a right turn to begin flying another line of the grid, the engine noise changed. Immediately thereafter and while the helicopter was 200 ft above ground level, the engine chip detector light illuminated, followed by a full authority digital electronic control degrade light. The pilot started to descend toward an open snow-covered meadow for landing, but the engine rpm degraded, so he initiated an autorotation. The helicopter touched down with little forward airspeed and bounced, and the left skid then became caught on an object under the snow. The helicopter rolled onto its left side and then came to rest.

A postaccident examination of the engine showed that the engine gas producer and power turbine drive train had continuity, but there was resistance to the gas producer and scraping of the power turbine when rotated. Further examination of the engine revealed that the gearbox cover had been modified by a repair, which included an insert being threaded into the oil delivery tube port. The insert was blocking the oil flow to the power turbine thrust (No. 5) bearing, which resulted in the bearing overheating and failing due to the lack of lubrication and the subsequent engine failure. No records were found regarding any repair to the gearbox cover oil delivery tube port.

## Flight Events

Maneuvering-low-alt flying - Loss of engine power (partial)

## Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The failure of the power turbine thrust (No. 5) bearing due to overheating as a result of oil starvation, which led to the engine failure. Also causal to the accident was an undocumented repair to the gearbox cover oil delivery tube port during which an insert was threaded into the oil delivery tube port that subsequently restricted the oil flow to the power turbine thrust bearing.

## Findings

Aircraft-Aircraft power plant-Engine (turbine/turboprop)-Turbine section-Failure - C  
Aircraft-Aircraft power plant-Engine (turbine/turboprop)-Oil system-Damaged/degraded - C  
Aircraft-Aircraft power plant-Engine (turbine/turboprop)-Oil system-Incorrect service/maintenance - C  
Aircraft-Fluids/misc hardware-Fluids-Oil-Not specified  
Environmental issues-Physical environment-Object/animal/substance-Hidden/submerged object-Contributed to outcome

## Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	32
<b>Airplane Rating(s):</b>	None	<b>Instrument Rating(s):</b>	Helicopter
<b>Other Aircraft Rating(s):</b>	Helicopter	<b>Instructor Rating(s):</b>	Helicopter; Instrument Helicopter
<b>Flight Time:</b>	(Estimated) 4300 hours (Total, all aircraft), 740 hours (Total, this make and model), 42 hours (Last 30 days, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Manufacturer:</b>	BELL	<b>Registration:</b>	N407MH
<b>Model/Series:</b>	407 NO SERIES	<b>Engines:</b>	1 Turbo Shaft
<b>Operator:</b>	CLASSIC MEDICAL INC	<b>Engine Manufacturer:</b>	ALLISON
<b>Air Carrier Operating Certificate:</b>	On-demand Air Taxi (135)	<b>Engine Model/Series:</b>	250-C47
<b>Flight Conducted Under:</b>	Part 135: Air Taxi & Commuter - Non-scheduled - Air Medical (Discretionary)		

## Meteorological Information and Flight Plan

<b>Observation Facility, Elevation:</b>		<b>Weather Information Source:</b>	Pilot
<b>Conditions at Accident Site:</b>	Visual Conditions	<b>Lowest Ceiling:</b>	None
<b>Condition of Light:</b>	Day	<b>Wind Speed/Gusts, Direction:</b>	Calm
<b>Temperature:</b>	4° C / -1° C	<b>Visibility</b>	20 Miles
<b>Precipitation and Obscuration:</b>			
<b>Departure Point:</b>	Moab, UT (MOB)	<b>Destination:</b>	Telluride, CO

## Wreckage and Impact Information

<b>Crew Injuries:</b>	3 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>	N/A	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None

## Administrative Information

<b>Investigator In Charge (IIC):</b>	David C Bowling	<b>Adopted Date:</b>	08/10/2016
<b>Investigation Docket:</b>	<a href="http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=89183">http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=89183</a>		

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