



## National Transportation Safety Board Aviation Accident Factual Report

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<b>Location:</b>	Butte, MT	<b>Accident Number:</b>	SEA02TA022
<b>Date &amp; Time:</b>	01/03/2002, 1450 MST	<b>Registration:</b>	N8393F
<b>Aircraft:</b>	Hughes 369D	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	2 None
<b>Flight Conducted Under:</b>	Public Aircraft		

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On January 3, 2002, approximately 1450 mountain standard time, a Hughes 369D helicopter, N8393F, being operated by the Montana State Department of Fish, Wildlife, and Parks on a public-use aerial deer count flight, experienced a loss of engine power at approximately 600 feet above ground level while en route to Bert Mooney Field, Butte, Montana. The commercial pilot-in-command executed an autorotation to a forced landing on the median of Interstate Highway 90 (I-90) about 5 miles west of Butte. The pilot and one mission crewmember (a wildlife biologist) were not injured, but the helicopter was substantially damaged when its tail boom separated during the forced landing. Instrument meteorological conditions (ceiling 1,200 feet overcast, visibility 3/4 statute mile in light snow and mist) were reported at Butte at 1453. A company flight plan was in effect for the flight.

In a written statement, the pilot reported that the wildlife survey flight lasted about 1 hour and 30 minutes. The flight was returning to Butte, when the engine "failed." The pilot autorotated the helicopter to the median of the interstate in a tail low attitude. The helicopter spun around 180 degrees after landing which during the event, the tail boom was severed. The pilot reported that there were no unusual indications that preceded the engine out; the engine anti-ice was on for the entire flight; the fuel ice filter was installed and operational; the intake filter "clogged" warning light was operational and the cabin heat was on medium setting. The pilot also stated that when the engine failed, he recalled that the engine out light and the auto re-ignition light illuminated.

The helicopter was in cruise flight at about 100 knots and about 600 to 800 feet above ground level. The pilot reported at the time, that the visibility was one-and-a-half to two miles visibility with light snow falling.

Investigators from the FAA, Boeing Helicopters (current holder of the Hughes 369D type certificate), Rolls-Royce USA (formerly Allison Engines), and the Montana State Department of Fish, Wildlife, and Parks examined the helicopter at the facilities of the Montana State Department of Fish, Wildlife, and Parks on January 8, 2002. These investigators determined that an adequate quantity of fuel was aboard the helicopter at the time of the accident.

The engine was transported to Rolls-Royce, Indianapolis, Indiana, for examination and test run. On February 12, 2002, in the presence of a Federal Aviation Administration Inspector. The inspector reported that after the engine was removed from the crate, it was visually examined for damage. The inspector reported no discrepancies or damage was evident. The engine was then prepared for a test cell run. The engine was then started and warmed up. After warm-up, the engine was put through a normal acceptance test run and all parameters were checked and recorded. The inspector reported that, "At the high and mid cruise horsepower (HP) settings, the engine was slightly below the HP that Rolls-Royce would accept for a NEW engine." No other discrepancies were noted. (See attached Rolls-Royce engine report).

## Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	46, Male
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land; Single-engine Sea	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	Helicopter	<b>Restraint Used:</b>	Seatbelt, Shoulder harness
<b>Instrument Rating(s):</b>	Airplane; Helicopter	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 2 Valid Medical--no waivers/lim.	<b>Last FAA Medical Exam:</b>	05/24/2001
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	11/16/2001
<b>Flight Time:</b>	10850 hours (Total, all aircraft), 1850 hours (Total, this make and model), 9063 hours (Pilot In Command, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Hughes	<b>Registration:</b>	N8393F
<b>Model/Series:</b>	369D	<b>Aircraft Category:</b>	Helicopter
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	270091D
<b>Landing Gear Type:</b>	Skid	<b>Seats:</b>	4
<b>Date/Type of Last Inspection:</b>	100 Hour	<b>Certified Max Gross Wt.:</b>	3500 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Turbo Shaft
<b>Airframe Total Time:</b>		<b>Engine Manufacturer:</b>	Allison
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	250-C20B
<b>Registered Owner:</b>	Montana State Dept. of Fish Wildlife & Parks	<b>Rated Power:</b>	420 hp
<b>Operator:</b>	Montana State Dept. of Fish Wildlife & Parks	<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument Conditions	Condition of Light:	Day
Observation Facility, Elevation:	BTM, 5545 ft msl	Distance from Accident Site:	5 Nautical Miles
Observation Time:	1453 MST	Direction from Accident Site:	90°
Lowest Cloud Condition:	Scattered / 500 ft agl	Visibility	0.75 Miles
Lowest Ceiling:	Overcast / 1200 ft agl	Visibility (RVR):	
Wind Speed/Gusts:	4 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	354°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.94 inches Hg	Temperature/Dew Point:	-1° C / -2° C
Precipitation and Obscuration:			
Departure Point:	Butte, MT (BTM)	Type of Flight Plan Filed:	Company VFR
Destination:	Butte, MT (BTM)	Type of Clearance:	None
Departure Time:	1245 MST	Type of Airspace:	Class E

## Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	45.958056, -112.483333

## Administrative Information

Investigator In Charge (IIC):	Debra J Eckrote
Additional Participating Persons:	Edward H Warmoth; FAA-FSDO; Helena, MT Mike Weber; Rolls-Royce Corp; Indianapolis, IN Bill Winninghoff; Montana Fish and Wildlife; Helena, MT Gregg Nesemeier; NTSB; Seattle, WA
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 <a href="mailto:pubinq@ntsb.gov">pubinq@ntsb.gov</a> , or at 800-877-6799. Dockets released after this date are available at <a href="http://dms.nts.gov/pubdms/">http://dms.nts.gov/pubdms/</a> .