



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	Kemmerer, WY	<b>Accident Number:</b>	DEN01LA154
<b>Date &amp; Time:</b>	09/02/2001, 1150 MDT	<b>Registration:</b>	N440TJ
<b>Aircraft:</b>	McDonnell Douglas 369E	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	1 None

**Flight Conducted Under:** Part 133: Rotorcraft Ext. Load

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## Analysis

The pilot was transporting bags of seismic equipment by long line to a remote site. While he hovered into the wind waiting for a flagger, the helicopter was struck by a wind gust and started turning right. The pilot applied left pedal, but was unable to stop the rotation. The helicopter struck terrain, breaking off both skid legs, tail rotor blades, and tail rotor gearbox. FAA's Advisory Circular 90-95 defines the loss of tail rotor effectiveness as "a critical, low-speed aerodynamic flight characteristic that can result in an uncommanded rapid yaw rate which does not subside of its own accord and, if not corrected, can result in the loss of aircraft control." Some of the conditions conducive to LTE include (1) a high power setting, (2) low airspeed, and (3) a tailwind or left crosswind.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: loss of tail rotor effectiveness while hovering. A contributing factor was the wind gust.

## Findings

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Occurrence #1: LOSS OF CONTROL - IN FLIGHT  
Phase of Operation: HOVER

### Findings

1. (C) LOSS OF TAIL ROTOR EFFECTIVENESS - ENCOUNTERED - PILOT IN COMMAND
2. (F) WEATHER CONDITION - GUSTS

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Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER  
Phase of Operation: DESCENT - UNCONTROLLED

## Factual Information

On September 2, 2001, approximately 1150 mountain daylight time, a McDonnell Douglas 369E helicopter, N440TJ, operated by Omni Aviation of Carencro, Louisiana, was substantially damaged when it collided with terrain while hovering near Kemmerer, Wyoming. The commercial pilot, the sole occupant aboard, was not injured. Visual meteorological conditions prevailed, and no flight plan had been filed for this work use flight being conducted under Title 14 CFR Part 133. The helicopter departed a nearby landing zone approximately 1145.

According to the pilot, he was transporting bags of seismic equipment by long line to a remote site. He said while he hovered into the wind and waited for a flagger, "a [wind] gust caused the helicopter to start to turn right." He applied "more left pedal," but was unable to stop the rotation. He jettisoned the external load, lowered the collective control, and attempted to fly out of the condition. He was able to stop most of the rotation but not before the helicopter struck the terrain. Both skid legs, tail rotor blades, and tail rotor gearbox broke off. The left horizontal stabilizer was struck by one of the blades, and the tail boom buckled when it struck the ground. The pilot said the winds were "generally light and variable, with [an] occasional gust."

According to FAA's Advisory Circular (AC) 90-95, loss of tail rotor effectiveness (LTE) "is a critical, low-speed aerodynamic flight characteristic that can result in an uncommanded rapid yaw rate which does not subside of its own accord and, if not corrected, can result in the loss of aircraft control. Some of the conditions conducive to LTE include (1) a high power setting, (2) low airspeed, and (3) a tailwind or left crosswind

## Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	37, Male
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	Helicopter	<b>Restraint Used:</b>	Seatbelt
<b>Instrument Rating(s):</b>	Airplane	<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--w/ waivers/lim.	<b>Last FAA Medical Exam:</b>	03/27/2001
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	07/30/2001
<b>Flight Time:</b>	1584 hours (Total, all aircraft), 66 hours (Total, this make and model), 1491 hours (Pilot In Command, all aircraft), 31 hours (Last 90 days, all aircraft), 8 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

Aircraft Make:	McDonnell Douglas	Registration:	N440TJ
Model/Series:	369E	Aircraft Category:	Helicopter
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Restricted; Normal	Serial Number:	0442E
Landing Gear Type:	Skid	Seats:	5
Date/Type of Last Inspection:	08/28/2001, AAIP	Certified Max Gross Wt.:	3000 lbs
Time Since Last Inspection:	67 Hours	Engines:	1 Turbo Shaft
Airframe Total Time:	8234 Hours at time of accident	Engine Manufacturer:	Allison
ELT:	Not installed	Engine Model/Series:	250-C20B
Registered Owner:	Textron Financial Corp.	Rated Power:	420 hp
Operator:	Omni Aviation Services	Operating Certificate(s) Held:	
Operator Does Business As:		Operator Designator Code:	A50L

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	BPI, 6990 ft msl	Distance from Accident Site:	65 Nautical Miles
Observation Time:	1135 MDT	Direction from Accident Site:	190°
Lowest Cloud Condition:	Clear	Visibility	10 Miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	6 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	160°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.22 inches Hg	Temperature/Dew Point:	23° C / 6° C
Precipitation and Obscuration:			
Departure Point:	Kemmerer, WY (NONE)	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	1147 MDT	Type of Airspace:	Class G

## Wreckage and Impact Information

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

## Administrative Information

**Investigator In Charge (IIC):** Arnold W Scott **Report Date:** 02/20/2002

**Additional Participating Persons:** Owen R Jones; FAA Flight Standards Field Office; Casper, WY

**Publish Date:**

**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](mailto:pubinq@ntsb.gov), or at 800-877-6799. Dockets released after this date are available at <http://dms.nts.gov/pubdms/>.

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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. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).