



National Transportation Safety Board Aviation Accident Final Report

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|--------------------------------|--------------------------------------|-------------------------|-------------|
| Location: | Estes Park, CO | Accident Number: | DEN03LA062 |
| Date & Time: | 04/02/2003, 1620 MST | Registration: | N56SM |
| Aircraft: | Hughes 369D | Aircraft Damage: | Substantial |
| Defining Event: | | Injuries: | 2 None |
| Flight Conducted Under: | Part 91: General Aviation - Business | | |

Analysis

The pilot said they were capturing bighorn sheep with a net canon. He said he was pursuing a group of animals up rising terrain (11,200 feet) when his rotor speed began to deteriorate. He tried to turn the helicopter around, but hit the ground breaking the helicopter's right skid. Subsequently, the aircraft rolled over onto its right side, and its main rotor blades separated from the helicopter. The density altitude at the time of the accident was calculated to be 13,068 feet.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the failure of the pilot-in-command to maintain clearance from terrain. Factors include the high density altitude and the pilot-in-command's improper in-flight planning.

Findings

Occurrence #1: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: MANEUVERING - TURN TO REVERSE DIRECTION

Findings

1. (F) IN-FLIGHT PLANNING/DECISION - INADEQUATE - PILOT IN COMMAND
2. (F) WEATHER CONDITION - HIGH DENSITY ALTITUDE
3. TERRAIN CONDITION - MOUNTAINOUS/HILLY
4. (C) CLEARANCE - NOT MAINTAINED - PILOT IN COMMAND

Occurrence #2: ROLL OVER
Phase of Operation: MANEUVERING - TURN TO REVERSE DIRECTION

Findings

5. LANDING GEAR,SKID ASSEMBLY - COLLAPSED

Factual Information

On April 2, 2003, at approximately 1620 mountain standard time, a Hughes 369D helicopter, N56SM, was substantially damaged when it impacted terrain during a reversal maneuver near Estes Park, Colorado. The commercial pilot and his private pilot crewmember were not injured. Aris Helicopters of San Jose, California, was operating the flight under Title 14 CFR Part 91. Visual meteorological conditions prevailed for the local, animal capture flight that originated at approximately 1530 from a forward staging area. The pilot had not filed a flight plan.

The pilot said they were capturing bighorn sheep with a net canon. He said he was pursuing a group of animals up rising terrain (11,200 feet) when his rotor speed began to deteriorate. He tried to turn the helicopter around, but hit the ground, breaking the helicopter's right skid. The aircraft rolled over onto its right side, and its main rotor blades separated from the helicopter. The density altitude at the time of the accident was calculated to be 13,068 feet.

Pilot Information

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|----------------------------------|---|--|----------------------------|
| Certificate: | Commercial | Age: | 54, Male |
| Airplane Rating(s): | Multi-engine Land; Multi-engine Sea; Single-engine Land; Single-engine Sea | Seat Occupied: | Left |
| Other Aircraft Rating(s): | Balloon; Helicopter | Restraint Used: | Seatbelt, Shoulder harness |
| Instrument Rating(s): | Airplane; Helicopter | Second Pilot Present: | No |
| Instructor Rating(s): | Airplane Multi-engine; Airplane Single-engine; Helicopter; Instrument Airplane | Toxicology Performed: | No |
| Medical Certification: | Class 2 Valid Medical--w/ waivers/lim. | Last FAA Medical Exam: | 06/14/2002 |
| Occupational Pilot: | | Last Flight Review or Equivalent: | 12/24/2002 |
| Flight Time: | 11000 hours (Total, all aircraft), 1000 hours (Total, this make and model), 10000 hours (Pilot In Command, all aircraft), 35 hours (Last 90 days, all aircraft), 35 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft) | | |

Aircraft and Owner/Operator Information

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|--------------------------------------|----------------------------------|---------------------------------------|---------------|
| Aircraft Make: | Hughes | Registration: | N56SM |
| Model/Series: | 369D | Aircraft Category: | Helicopter |
| Year of Manufacture: | | Amateur Built: | No |
| Airworthiness Certificate: | Normal | Serial Number: | 380287D |
| Landing Gear Type: | Skid | Seats: | 5 |
| Date/Type of Last Inspection: | 03/06/2003, Annual | Certified Max Gross Wt.: | 3000 lbs |
| Time Since Last Inspection: | 33.6 Hours | Engines: | 1 Turbo Shaft |
| Airframe Total Time: | 6478.4 Hours at time of accident | Engine Manufacturer: | Allison |
| ELT: | Installed, not activated | Engine Model/Series: | 250-C20B |
| Registered Owner: | Acme Rocket Sleds Inc. | Rated Power: | 420 hp |
| Operator: | Acme Rocket Sleds Inc. | Operating Certificate(s) Held: | None |

Meteorological Information and Flight Plan

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|---|-----------------------|---|-------------------|
| Conditions at Accident Site: | Visual Conditions | Condition of Light: | Day |
| Observation Facility, Elevation: | FNL, 5016 ft msl | Distance from Accident Site: | 37 Nautical Miles |
| Observation Time: | 1715 MST | Direction from Accident Site: | 75° |
| Lowest Cloud Condition: | Clear | Visibility | 10 Miles |
| Lowest Ceiling: | Unknown | Visibility (RVR): | |
| Wind Speed/Gusts: | 14 knots / | Turbulence Type Forecast/Actual: | / |
| Wind Direction: | 250° | Turbulence Severity Forecast/Actual: | / |
| Altimeter Setting: | 29.48 inches Hg | Temperature/Dew Point: | 20° C / -8° C |
| Precipitation and Obscuration: | | | |
| Departure Point: | Estes Park, CO (NONE) | Type of Flight Plan Filed: | Company VFR |
| Destination: | | Type of Clearance: | VFR |
| Departure Time: | 1530 MST | Type of Airspace: | Class E; Class G |

Wreckage and Impact Information

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|----------------------------|--------|-----------------------------|------------------------|
| Crew Injuries: | 1 None | Aircraft Damage: | Substantial |
| Passenger Injuries: | 1 None | Aircraft Fire: | None |
| Ground Injuries: | N/A | Aircraft Explosion: | None |
| Total Injuries: | 2 None | Latitude, Longitude: | 40.524444, -105.863889 |

Administrative Information

Investigator In Charge (IIC): James F Struhsaker **Report Date:** 12/30/2003

Additional Participating Persons: Dale W Shuel; Denver, CO; Denver, CO

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, 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](#).