



Aviation Investigation Final Report

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|--------------------------------|--------------------------------------|-------------------------|-------------|
| Location: | Logan, Utah | Accident Number: | SEA07CA167 |
| Date & Time: | June 18, 2007, 15:00 Local | Registration: | N203XR |
| Aircraft: | Rallison Rotorway 162F | Aircraft Damage: | Substantial |
| Defining Event: | | Injuries: | 2 None |
| Flight Conducted Under: | Part 91: General aviation - Personal | | |

Analysis

The pilot was maneuvering at low altitude to take pictures of his neighbor's business. Suddenly the helicopter's engine "raced free of load", the needles split and he began an autorotation. The aircraft landed with its right skid up slope, and the helicopter rolled onto its left side. The pilot's postaccident examination of the control panel revealed that he had inadvertently deactivated the aircraft's electric clutch by striking its overhead toggle switch with his head. The helicopter's main rotor blades, one tail rotor blade, right landing skid, left horizontal stabilizer, and the tail boom were bent. The landing skid on the left side collapsed.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The total loss of engine power due to the pilot inadvertently deactivating the rotor drive clutch assembly. A contributing factor was the downhill terrain condition where he landed, which exceeded the slope limitations of the helicopter.

Findings

Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - NONMECHANICAL
Phase of Operation: MANEUVERING

Findings

1. (C) ROTOR DRIVE SYSTEM, CLUTCH ASSEMBLY - DISENGAGED
2. (C) MISCELLANEOUS EQUIPMENT - INADVERTENT DEACTIVATION - PILOT IN COMMAND

Occurrence #2: FORCED LANDING

Phase of Operation: EMERGENCY DESCENT/LANDING

Findings

3. AUTOROTATION - PERFORMED - PILOT IN COMMAND

Occurrence #3: HARD LANDING

Phase of Operation: EMERGENCY DESCENT/LANDING

Findings

4. (F) TERRAIN CONDITION - DOWNHILL

5. (F) SLOPE LIMITATIONS - EXCEEDED - PILOT IN COMMAND

Factual Information

The pilot was maneuvering at low altitude to take pictures of his neighbor's business. Suddenly the helicopter's engine "raced free of load", the needles split and he began an autorotation. The aircraft landed with its right skid up slope, and the helicopter rolled onto its left side. The pilot's postaccident examination of the control panel revealed that he had inadvertently deactivated the aircraft's electric clutch by striking its overhead toggle switch with his head. The helicopter's main rotor blades, one tail rotor blade, right landing skid, left horizontal stabilizer, and the tail boom were bent. The landing skid on the left side collapsed.

Pilot Information

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|----------------------------------|---|--|------------------|
| Certificate: | Private | Age: | 61, Male |
| Airplane Rating(s): | Single-engine land | Seat Occupied: | Left |
| Other Aircraft Rating(s): | Glider; Helicopter | Restraint Used: | |
| Instrument Rating(s): | None | Second Pilot Present: | No |
| Instructor Rating(s): | None | Toxicology Performed: | No |
| Medical Certification: | Class 3 With waivers/limitations | Last FAA Medical Exam: | February 1, 2007 |
| Occupational Pilot: | No | Last Flight Review or Equivalent: | February 1, 2007 |
| Flight Time: | 1000 hours (Total, all aircraft), 235 hours (Total, this make and model), 5 hours (Last 90 days, all aircraft), 2 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft) | | |

Aircraft and Owner/Operator Information

| | | | |
|--------------------------------------|--------------------------|---------------------------------------|-----------------|
| Aircraft Make: | Rallison | Registration: | N203XR |
| Model/Series: | Rotorway 162F | Aircraft Category: | Helicopter |
| Year of Manufacture: | | Amateur Built: | Yes |
| Airworthiness Certificate: | Experimental (Special) | Serial Number: | 6188 |
| Landing Gear Type: | Skid | Seats: | 2 |
| Date/Type of Last Inspection: | | Certified Max Gross Wt.: | |
| Time Since Last Inspection: | | Engines: | 1 Reciprocating |
| Airframe Total Time: | | Engine Manufacturer: | Rotorway |
| ELT: | Installed, not activated | Engine Model/Series: | 162R |
| Registered Owner: | Richard D. Rallison | Rated Power: | 150 Horsepower |
| Operator: | Richard D. Rallison | Operating Certificate(s) Held: | None |

Meteorological Information and Flight Plan

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|---|----------------------------------|---|-------------|
| Conditions at Accident Site: | Visual (VMC) | Condition of Light: | Day |
| Observation Facility, Elevation: | LGU | Distance from Accident Site: | |
| Observation Time: | 14:51 Local | Direction from Accident Site: | |
| Lowest Cloud Condition: | Clear | Visibility | 10 miles |
| Lowest Ceiling: | None | Visibility (RVR): | |
| Wind Speed/Gusts: | 6 knots / 16 knots | Turbulence Type Forecast/Actual: | / |
| Wind Direction: | | Turbulence Severity Forecast/Actual: | / |
| Altimeter Setting: | 30.06 inches Hg | Temperature/Dew Point: | 22°C / -2°C |
| Precipitation and Obscuration: | No Obscuration; No Precipitation | | |
| Departure Point: | Logan, UT (PRIV) | Type of Flight Plan Filed: | None |
| Destination: | (PRIV) | Type of Clearance: | None |
| Departure Time: | 14:50 Local | Type of Airspace: | |

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: | 41.712776,-111.841941 |

Administrative Information

Investigator In Charge (IIC): Struhsaker, James

Additional Participating Persons:

Original Publish Date: October 31, 2007

Last Revision Date:

Investigation Class: [Class](#)

Note: This accident report documents the factual circumstances of this accident as described to the NTSB.

Investigation Docket: <https://data.nts.gov/Docket?ProjectID=66008>

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).