



Aviation Investigation Final Report

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|--------------------------------|---|-------------------------|-------------|
| Location: | ROME, Georgia | Accident Number: | ATL92LA017 |
| Date & Time: | October 28, 1991, 14:50 Local | Registration: | N925V |
| Aircraft: | BELL 47D-1 | Aircraft Damage: | Substantial |
| Defining Event: | | Injuries: | 2 None |
| Flight Conducted Under: | Part 91: General aviation - Instructional | | |

Analysis

THE PILOT HAD COMPLETED TWO TRAFFIC PATTERNS AND DURING THE THIRD TAKEOFF FOR ANOTHER APPROACH THE FLIGHT INSTRUCTOR FELT A THUMP IN THE AIRFRAME. IMMEDIATELY, HE ENTERED AN AUTOROTATION AND LANDED IN A WOODED AREA. EXAMINATION OF THE HELICOPTER DISCLOSED THAT THE TAIL ROTOR GEARBOX AND TAIL ROTOR ASSEMBLIES WERE MISSING. ACCORDING TO THE OPERATOR BOTH ASSEMBLIES WERE RECOVERED THE FOLLOWING DAY, HOWEVER THE NTSB WAS NEVER NOTIFIED OF THE RECOVERY. THE DAMAGED COMPONENTS WERE EXAMINED BY THE OPERATOR AND DESTROYED. ACCORDING TO THE MECHANIC, ONE ROTOR BLADE FAILED IN THE VICINITY WHERE AD 59-05-10 APPLIED; THE AD REQUIRED A DAILY INSPECTION OF THE TAIL ROTOR BLADES FOR CRACKS. ACCORDING TO THE PILOT, AN INSPECTION OF THE BLADES HAD BEEN COMPLETED PRIOR TO THIS FLIGHT.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: THE FAILURE OF A TAIL ROTOR BLADE FOR UNDETERMINED REASONS.

Findings

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION
Phase of Operation: CRUISE

Findings

1. (C) ROTOR SYSTEM, TAIL ROTOR BLADE - FAILURE, TOTAL
2. (C) ROTOR SYSTEM, TAIL ROTOR BLADE - UNDETERMINED

Occurrence #2: FORCED LANDING

Phase of Operation: DESCENT - EMERGENCY

Factual Information

Pilot Information

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|----------------------------------|---|--|-----------------|
| Certificate: | Commercial | Age: | 30, Male |
| Airplane Rating(s): | Single-engine land; Multi-engine land | Seat Occupied: | Right |
| Other Aircraft Rating(s): | Helicopter | Restraint Used: | |
| Instrument Rating(s): | Airplane | Second Pilot Present: | Yes |
| Instructor Rating(s): | Helicopter | Toxicology Performed: | No |
| Medical Certification: | Class 2 Valid Medical--no waivers/lim. | Last FAA Medical Exam: | August 28, 1991 |
| Occupational Pilot: | Yes | Last Flight Review or Equivalent: | |
| Flight Time: | 1990 hours (Total, all aircraft), 12 hours (Total, this make and model), 1770 hours (Pilot In Command, all aircraft), 47 hours (Last 90 days, all aircraft), 30 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft) | | |

Aircraft and Owner/Operator Information

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|--------------------------------------|-------------------------|---------------------------------------|-----------------|
| Aircraft Make: | BELL | Registration: | N925V |
| Model/Series: | 47D-1 47D-1 | Aircraft Category: | Helicopter |
| Year of Manufacture: | | Amateur Built: | |
| Airworthiness Certificate: | Normal | Serial Number: | 643 |
| Landing Gear Type: | Skid | Seats: | 2 |
| Date/Type of Last Inspection: | October 15, 1991 Annual | Certified Max Gross Wt.: | 2200 lbs |
| Time Since Last Inspection: | 10 Hrs | Engines: | 1 Reciprocating |
| Airframe Total Time: | 3979 Hrs | Engine Manufacturer: | FRANKLIN |
| ELT: | Not installed | Engine Model/Series: | 6VS-335-50 |
| Registered Owner: | STEELE, DOUGLAS D. | Rated Power: | 210 Horsepower |
| Operator: | SILVER HAWK AVIATION | Operating Certificate(s) Held: | None |
| Operator Does Business As: | | Operator Designator Code: | |

Meteorological Information and Flight Plan

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|---|----------------------------------|---|-------------------|
| Conditions at Accident Site: | Instrument (IMC) | Condition of Light: | Day |
| Observation Facility, Elevation: | CHA ,682 ft msl | Distance from Accident Site: | 40 Nautical Miles |
| Observation Time: | 14:50 Local | Direction from Accident Site: | 360° |
| Lowest Cloud Condition: | Scattered / 25000 ft AGL | Visibility | 15 miles |
| Lowest Ceiling: | None | Visibility (RVR): | |
| Wind Speed/Gusts: | 9 knots / | Turbulence Type Forecast/Actual: | / |
| Wind Direction: | 160° | Turbulence Severity Forecast/Actual: | / |
| Altimeter Setting: | 30 inches Hg | Temperature/Dew Point: | 28°C / 12°C |
| Precipitation and Obscuration: | No Obscuration; No Precipitation | | |
| Departure Point: | | Type of Flight Plan Filed: | None |
| Destination: | | Type of Clearance: | None |
| Departure Time: | 14:20 Local | Type of Airspace: | Class G |

Airport Information

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|-----------------------------|---|----------------------------------|----------------|
| Airport: | | Runway Surface Type: | |
| Airport Elevation: | | Runway Surface Condition: | |
| Runway Used: | 0 | IFR Approach: | None |
| Runway Length/Width: | | VFR Approach/Landing: | Forced landing |

Wreckage and Impact Information

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|----------------------------|--------|-----------------------------|---------------------------|
| Crew Injuries: | 2 None | Aircraft Damage: | Substantial |
| Passenger Injuries: | | Aircraft Fire: | None |
| Ground Injuries: | N/A | Aircraft Explosion: | None |
| Total Injuries: | 2 None | Latitude, Longitude: | 34.259059,-85.180786(est) |

Administrative Information

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| Investigator In Charge (IIC): | Powell, Phillip |
| Additional Participating Persons: | JAMES E GLENN; COLLEGE PARK , GA |
| Original Publish Date: | March 9, 1993 |
| Last Revision Date: | |
| Investigation Class: | Class |
| Note: | |
| Investigation Docket: | https://data.nts.gov/Docket?ProjectID=8543 |

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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](#).