



Aviation Investigation Final Report

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|--------------------------------|--------------------------------------|-------------------------|-------------|
| Location: | FAIRBANKS, Alaska | Accident Number: | ANC88LA123 |
| Date & Time: | September 3, 1988, 21:13 Local | Registration: | N906JS |
| Aircraft: | de Havilland DHC-2 | Aircraft Damage: | Substantial |
| Defining Event: | | Injuries: | 1 None |
| Flight Conducted Under: | Part 91: General aviation - Personal | | |

Analysis

THE AIRPLANE WAS ON A CLIMBOUT AT APPROXIMATELY 1000 TO 1200 FEET M.S.L. WHEN THE ENGINE QUIT AND THE PILOT ENCOUNTERED AN ENGINE FIRE. THE PILOT ELECTED TO GO BACK TO THE AIRPORT. THE AIRPLANE CRASHED ON THE TAXIWAY, AND THE AIRPLANE WAS SUBSTANTIALLY DAMAGED. THE PILOT WAS NOT INJURED. EXAMINATION OF THE AIRCRAFT ENGINE REVEALED A HOLE IN THE SIDE OF THE ENGINE COMBUSTION CHAMBER LINER. THE TURBINE CHAMBER AND TURBINE BLADE WERE COMPLETELY DESTROYED BY THE INFLIGHT FIRE AND UNCONTAINED CASE FAILURE.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

Findings

Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - MECH FAILURE/MALF

Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings

1. COMBUSTION ASSEMBLY, OUTER CASING - FAILURE, TOTAL
2. COMBUSTION ASSEMBLY, INNER CASING - FAILURE, TOTAL
3. (C) TURBINE ASSEMBLY, TURBINE BLADE - SEPARATION

Occurrence #2: FIRE
Phase of Operation: TAKEOFF

Occurrence #3: FORCED LANDING
Phase of Operation: DESCENT - EMERGENCY

Occurrence #4: HARD LANDING
Phase of Operation: LANDING

Findings
4. (F) TERRAIN CONDITION - NONE SUITABLE

Factual Information

Pilot Information

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|----------------------------------|--|--|-----------------|
| Certificate: | Private | Age: | 44, Male |
| Airplane Rating(s): | Single-engine land; Single-engine sea | Seat Occupied: | Left |
| Other Aircraft Rating(s): | None | Restraint Used: | |
| Instrument Rating(s): | Airplane | Second Pilot Present: | No |
| Instructor Rating(s): | None | Toxicology Performed: | No |
| Medical Certification: | Class 3 Valid Medical--w/ waivers/lim | Last FAA Medical Exam: | October 8, 1986 |
| Occupational Pilot: | No | Last Flight Review or Equivalent: | |
| Flight Time: | 3000 hours (Total, all aircraft), 132 hours (Total, this make and model), 3000 hours (Pilot In Command, all aircraft), 55 hours (Last 90 days, all aircraft), 15 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft) | | |

Aircraft and Owner/Operator Information

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|--------------------------------------|--|---------------------------------------|----------------|
| Aircraft Make: | de Havilland | Registration: | N906JS |
| Model/Series: | DHC-2 DHC-2 | Aircraft Category: | Airplane |
| Year of Manufacture: | | Amateur Built: | |
| Airworthiness Certificate: | Normal | Serial Number: | 1659TB34 |
| Landing Gear Type: | Float | Seats: | 4 |
| Date/Type of Last Inspection: | June 18, 1988 Annual | Certified Max Gross Wt.: | 5370 lbs |
| Time Since Last Inspection: | 14 Hrs | Engines: | 1 Turbo prop |
| Airframe Total Time: | 6152 Hrs | Engine Manufacturer: | P&W |
| ELT: | Installed, activated, did not aid in locating accident | Engine Model/Series: | PT6A-20 |
| Registered Owner: | JOSEPH W. SHEEHAN | Rated Power: | 550 Horsepower |
| Operator: | | 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: | Visual (VMC) | Condition of Light: | Day |
| Observation Facility, Elevation: | FAI | Distance from Accident Site: | |
| Observation Time: | 21:15 Local | Direction from Accident Site: | |
| Lowest Cloud Condition: | Unknown / 6000 ft AGL | Visibility | 30 miles |
| Lowest Ceiling: | Unknown / 20000 ft AGL | Visibility (RVR): | |
| Wind Speed/Gusts: | 4 knots / | Turbulence Type Forecast/Actual: | / |
| Wind Direction: | 360° | Turbulence Severity Forecast/Actual: | / |
| Altimeter Setting: | 29 inches Hg | Temperature/Dew Point: | 12°C / 6°C |
| Precipitation and Obscuration: | No Obscuration; No Precipitation | | |
| Departure Point: | | Type of Flight Plan Filed: | None |
| Destination: | MINTO FLATS , AK | Type of Clearance: | None |
| Departure Time: | 00:00 Local | Type of Airspace: | Class D |

Airport Information

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

Wreckage and Impact Information

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|----------------------------|--------|-----------------------------|----------------------------|
| Crew Injuries: | 1 None | Aircraft Damage: | Substantial |
| Passenger Injuries: | | Aircraft Fire: | In-flight |
| Ground Injuries: | N/A | Aircraft Explosion: | None |
| Total Injuries: | 1 None | Latitude, Longitude: | 64.809745,-147.719329(est) |

Administrative Information

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| Investigator In Charge (IIC): | Michelangelo, James |
| Additional Participating Persons: | HUGH A MCLAUGHLIN; FAIRBANKS , AK CLIFFORD H SMART; FAIRBANKS , AK PAUL KERSTETTER; ANCHORAGE , AK |
| Original Publish Date: | July 21, 1989 |
| Last Revision Date: | |
| Investigation Class: | Class |
| Note: | |
| Investigation Docket: | https://data.nts.gov/Docket?ProjectID=5064 |

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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](#).