



Aviation Investigation Final Report

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| Location: | SALOL, Minnesota | Accident Number: | CHI93FA322 |
| Date & Time: | August 15, 1993, 15:04 Local | Registration: | N6301H |
| Aircraft: | PIPER J-3C-85 | Aircraft Damage: | Destroyed |
| Defining Event: | | Injuries: | 2 Fatal |
| Flight Conducted Under: | Part 91: General aviation - Aerial observation | | |

Analysis

THE PURPOSE OF THE FLIGHT WAS AERIAL OBSERVATION OF A WHEAT FIELD. WITNESSES OBSERVED THE AIRPLANE MANEUVERING AT LOW ALTITUDES (LESS THAN 100 FEET AGL), BEFORE IT PITCHED NOSE UP AND BANKED TO THE LEFT INTO THE GROUND. A POSTIMPACT FIRE ENSUED. POSTACCIDENT INVESTIGATION REVEALED NO EVIDENCE OF PREIMPACT MECHANICAL MALFUNCTION. RECORDS INDICATE THE PILOT HAD APPROXIMATELY 435 HOURS TOTAL FLIGHT TIME, OF WHICH ABOUT 390 HOURS WERE IN THE ACCIDENT AIRPLANE. THE AIRPLANE CO-OWNER STATED THE PILOT HAD FLOWN LESS THAN TWO HOURS IN THE PRECEDING EIGHT MONTHS.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: THE PILOT'S FAILURE TO MAINTAIN ADEQUATE AIRSPEED RESULTING IN AN AERODYNAMIC STALL. THE PILOT'S LACK OF RECENT FLIGHT EXPERIENCE IS A RELATED FACTOR.

Findings

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

Findings

1. (C) AIRSPEED - NOT MAINTAINED - PILOT IN COMMAND
2. STALL - INADVERTENT - PILOT IN COMMAND

3. (F) LACK OF RECENT TOTAL EXPERIENCE - PILOT IN COMMAND

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

Factual Information

HISTORY OF FLIGHT

On August 15, 1993, about 1504 hours central daylight time, a 1946 Piper J-3C-85, N6301H, operated by the aircraft co-owner/private pilot, was observed maneuvering at a low altitude before it impacted terrain on the east end of the private airstrip near Salol, Minnesota. The airplane was destroyed by impact forces and postimpact fire. The pilot and one passenger received fatal injuries. Visual meteorological conditions prevailed for the local flight, no flight plan was filed. The flight operated under 14 CFR Part 91, and originated from Salol, Minnesota, exact time unknown.

The pilot's brother/airplane co-owner stated the purpose of the flight was to observe and assess the condition of a wheat field which was being farmed by the passenger. The wheat field was located south-southwest of the grass airstrip where the airplane was based.

The pilot's brother witnessed the accident from a wheat field west of the accident site; his wife observed the accident from their yard, southwest of the accident. The co-owner's wife reported the airplane made a low, wide circle over their house, then flew east-northeast toward the airstrip and wheat field. She estimated the airplane was not more than 100 feet above the ground (AGL) while she watched it. She stated as the airplane moved to the east it descended until it was below tree level. She reported as it reached the east end of the airstrip, the airplane "pulled straight up, yawed and rolled slightly to the right, then snapped over the top to the left and down into the ground." She stated the maneuver reminded her of the agricultural "spray" airplanes she had seen in the area. The pilot's brother concurred with her description.

CREW INFORMATION

The pilot held Private pilot certificate #469563445, for airplane single engine land operations, issued April 20, 1978. FAA records indicate he obtained his most recent medical certificate (Third Class, no limitations or restrictions) on August 21, 1990. The medical certificate application was completed May 14, 1990. pilot's total flight time was reported to be 410 hours, including 15 hours in the preceding 6 months. The airplane co-owner estimated the pilot had flown an additional 25 hours since the application date. He estimated the pilot had flown less than two hours within the preceding eight months.

AIRCRAFT INFORMATION

The airplane was originally manufactured in 1946, and was rebuilt in 1977. The pilot and his brother purchased the rebuilt airplane in May, 1978. The most recent maintenance logbook entries were endorsements for an Annual Inspection, which occurred at a Tachometer time of

2,936 hours, and was dated January 11, 1992. The airplane co-owner estimated the airplane had flown 12 hours since the 1992 annual inspection. Discussions with the airplane co-owner and a local mechanic indicate a more recent Annual Inspection was performed in January, 1993. The individuals stated the logbooks were not located in the airplane, and the endorsement was not accomplished. Excerpts from maintenance logbooks are appended.

WRECKAGE/IMPACT INFORMATION

Witnesses reported the airplane overflew the airstrip on an easterly heading about 15 feet AGL, before it pitched up, pulled slightly to the right, then banked "over the top" to the left and pitched down into the ground. The airplane impacted terrain at a shrub/fenceline on the east edge of the airstrip. Local residents extinguished the ground fire which ensued.

The airplane was removed from the fenceline and transported to the Roseau County Airport for further examination. Postaccident investigation revealed no evidence of preimpact mechanical malfunction. Photographs are appended.

MEDICAL/PATHOLOGICAL INFORMATION

Autopsy examination of the pilot revealed no evidence of preexisting disease. The autopsy (#A-93-73) was conducted on August 17, 1993, by Drs. L. D. Johnson and D. L. Iverson, at Northland Clinic, 412 N. Main Avenue, P.O. Box 9, Warroad, Minnesota, 56763.

Toxicological examination of the pilot detected 49.800 (ug/ml, ug/g) Salicylate in Urine. FAA Medical personnel stated the presence of Salicylate was indicative of pain reliever use.

FIRE

A postimpact fire was extinguished by witnesses with hand held extinguishers.

ADDITIONAL INFORMATION

The airplane wreckage was released to the registered co-owner upon completion of the on scene investigation, on August 17, 1993.

Pilot Information

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|----------------------------------|---|--|-----------------|
| Certificate: | Private | Age: | 49, Male |
| Airplane Rating(s): | Single-engine land | Seat Occupied: | Front |
| Other Aircraft Rating(s): | None | Restraint Used: | |
| Instrument Rating(s): | None | Second Pilot Present: | No |
| Instructor Rating(s): | None | Toxicology Performed: | Yes |
| Medical Certification: | Unknown Expired | Last FAA Medical Exam: | August 21, 1990 |
| Occupational Pilot: | No | Last Flight Review or Equivalent: | |
| Flight Time: | 435 hours (Total, all aircraft), 390 hours (Total, this make and model) | | |

Aircraft and Owner/Operator Information

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|--------------------------------------|-------------------------|---------------------------------------|-----------------|
| Aircraft Make: | PIPER | Registration: | N6301H |
| Model/Series: | J-3C-85 J-3C-85 | Aircraft Category: | Airplane |
| Year of Manufacture: | | Amateur Built: | |
| Airworthiness Certificate: | Normal | Serial Number: | 19481 |
| Landing Gear Type: | Tailwheel | Seats: | 2 |
| Date/Type of Last Inspection: | January 11, 1992 Annual | Certified Max Gross Wt.: | 1220 lbs |
| Time Since Last Inspection: | 12 Hrs | Engines: | 1 Reciprocating |
| Airframe Total Time: | 2948 Hrs | Engine Manufacturer: | CONTINENTAL |
| ELT: | Not installed | Engine Model/Series: | C-85-12F |
| Registered Owner: | DAHL, DAVID & MICHAEL | Rated Power: | 85 Horsepower |
| Operator: | DAHL, DAVID & MICHAEL | 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: | ROX ,1059 ft msl | Distance from Accident Site: | 7 Nautical Miles |
| Observation Time: | 14:45 Local | Direction from Accident Site: | 270° |
| Lowest Cloud Condition: | Scattered / 2900 ft AGL | Visibility | 10 miles |
| Lowest Ceiling: | Broken / 3500 ft AGL | Visibility (RVR): | |
| Wind Speed/Gusts: | 7 knots / | Turbulence Type Forecast/Actual: | / |
| Wind Direction: | 300° | Turbulence Severity Forecast/Actual: | / |
| Altimeter Setting: | 29 inches Hg | Temperature/Dew Point: | 21°C / 14°C |
| Precipitation and Obscuration: | | | |
| Departure Point: | | Type of Flight Plan Filed: | None |
| Destination: | | Type of Clearance: | None |
| Departure Time: | 14:30 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: | |
| Runway Length/Width: | | VFR Approach/Landing: | None |

Wreckage and Impact Information

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|----------------------------|---------|-----------------------------|---------------------------|
| Crew Injuries: | 1 Fatal | Aircraft Damage: | Destroyed |
| Passenger Injuries: | 1 Fatal | Aircraft Fire: | On-ground |
| Ground Injuries: | N/A | Aircraft Explosion: | None |
| Total Injuries: | 2 Fatal | Latitude, Longitude: | 48.860942,-95.570892(est) |

Administrative Information

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| Investigator In Charge (IIC): | Reeves, Jodi |
| Additional Participating Persons: | MIKAL CAMPANELLO; MINNEAPOLIS , MN |
| Original Publish Date: | October 20, 1994 |
| Last Revision Date: | |
| Investigation Class: | Class |
| Note: | |
| Investigation Docket: | https://data.nts.gov/Docket?ProjectID=9181 |

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](#).