



National Transportation Safety Board Aviation Accident Final Report

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|--------------------------------|--------------------------------------|-------------------------|--------------------|
| Location: | HARTFORD, CT | Accident Number: | IAD96LA115 |
| Date & Time: | 07/12/1996, 1115 EDT | Registration: | N234DM |
| Aircraft: | Piper PA-46-310P | Aircraft Damage: | Destroyed |
| Defining Event: | | Injuries: | 2 Serious, 4 Minor |
| Flight Conducted Under: | Part 91: General Aviation - Personal | | |

Analysis

The pilot reported that he performed a rolling takeoff from the 2315 ft runway. He said that as soon as the airplane broke ground on the takeoff roll, he experienced a loss of engine power. The pilot said that he retracted the gear to help clear a 42 ft dike at the departure end of the runway. Also, he reported that after clearing the dike, he turned gradually to the left, and the left wing stalled. Two witnesses reported hearing loud, steady sounds from the airplane's engine and propeller. They said they saw the airplane in a high nose-up attitude, and watched the airplane descend behind the dike. The engine could be heard until the airplane contacted the river. During an operational check after the accident, the engine performed at recommended levels. According to performance data provided by the FAA, at the given takeoff weight, with a zero degree flap setting, the airplane required 2850 feet of runway to clear a 50 ft obstacle. The charts were based on full power before brake release.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the pilot's inadequate preflight planning/preparation, and his failure to attain the proper lift-off airspeed, which resulted in a stall and collision with the terrain (river).

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT

Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings

1. (C) PREFLIGHT PLANNING/PREPARATION - INADEQUATE - PILOT IN COMMAND
 2. (C) AIRSPEED(VLOF) - NOT ATTAINED - PILOT IN COMMAND
 3. (C) STALL/MUSH - INADVERTENT - PILOT IN COMMAND
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Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: TAKEOFF

Findings

4. TERRAIN CONDITION - WATER

Factual Information

On July 12, 1996, at about 1115 eastern daylight time, a Piper PA-46-310P, N234DM, was destroyed when it descended into the Connecticut River shortly after takeoff from Runway 11, at Hartford-Brainard Field, in Hartford, Connecticut. The commercial rated pilot and three of the five passengers on board reported minor injuries. Two passengers reported serious injuries. Visual meteorological conditions prevailed at the time of the accident, no flight plan was filed. The flight was conducted under 14 CFR 91. The airplane departed Hartford, Connecticut, at approximately 1113 with an intended destination of Block Island State Airport (BID), Rhode Island.

The pilot reported that he performed the pre-flight, loaded the passengers, started the aircraft, and taxied to runway 11. He said he performed "... a normal run-up ..." and that there were no anomalies. He said he was cleared for takeoff and started his takeoff roll with "... one notch of flaps (10 degrees) ..." set. The pilot stated that he "...rotated at 80-85 knots ..." and that "... as soon as I broke ground, there was a noticeable drop ..." in engine power but that the engine "... did not stop." The pilot explained that he "...pulled the gear up ..." to assist him in his effort to "...clear the dike..." at the departure end of runway 11. He stated that as he cleared the dike "...the airplane began to buffet. I turned to the left - a very gradual turn to avoid a stall - but the [left] wing stalled." The pilot reported to an FAA Safety Inspector that after takeoff he "...reduced his climb speed to 75 to 80 kts (knots) and started a turn because he saw approaching trees, felt a shudder and then plunged into the river."

One witness reported, " I saw the aircraft, N234DM, in a high nose up attitude, low to the ground, but in the air, as it came into view from behind a hanger south of my location, The engine sound was loud, strong and steady. The aircraft continued down the runway only climbing very slightly but still in a high nose up attitude. The aircraft just cleared a retaining dike at the end of the runway and went behind trees, going out of my view from my location." Another witness stated, "At approximately 1110 local I heard the loud sound of an aircraft engine and propeller at which time I turned to see the aircraft in a very nose high attitude. The aircraft did not seem to climb and I thought it was going to hit the dike. The aircraft cleared the dike and disappeared behind the trees. At that time I could clearly hear the aircraft until it impacted the water."

A post accident inspection of the aircraft by FAA Aviation Safety Inspectors revealed no pre-impact anomalies. One inspector reported, "The engine was run up in a static position on July 18,1996. The engine indicated 2570 rpm and 37 inches of manifold pressure, indicating recommended performance. There was no difficulty encountered in running or starting this engine." The report describes runway 11 at Brainard Airport to be 2,315 feet long with a "...42 (ft) dike at the end of the runway which protects the airport from the [Connecticut] River. There are numerous trees, some as tall as 130 (ft) on this dike. A review of performance data follows: There were 6 individuals on board the aircraft:

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|---------------------|-------------|---------------|------------|------------|-------------|
| Weights as follows: | | | | | |
| Pilot | 224 pounds | | Passenger | 215 pounds | |
| | Passenger | 205 pounds | | Passenger | |
| 137 pounds | | | Passenger | 37 pounds | |
| Passenger | 25 pounds | | Total | 836 pounds | |
| | Fuel | 70 gals. app. | 420 pounds | | Basic empty |
| weight | 2745 pounds | | | | |

Total Aircraft takeoff weight
4118 pounds

4001 pounds Maximum Gross Weight

[The pilot] had stated that he had selected 20 degrees of flaps for takeoff. A review of the wreckage, flap selector lever and flap indicator shows that the flaps were not selected. The aircraft structure indicates that the aircraft stalled before it hit the water. The performance charts for both 0 degree flaps and 20 degree flaps were referenced to determine take off distance over a 50 ft. obstacle. The charts indicate that at 0 degree flaps 2,850 of runway was required. At 20 degrees of flaps, 2,050 ft. was required. The charts are based on full power before brake release. [The pilot] stated that he made a rolling take off. A review of Angle of bank vs stall information indicates that at 30 degrees of bank, 0 degrees of flaps, the aircraft stalls at 75 kts."

Pilot Information

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|---------------------------|--|-----------------------------------|----------------------------|
| Certificate: | Commercial | Age: | 65, Male |
| Airplane Rating(s): | Multi-engine Land; Single-engine Land; Single-engine Sea | Seat Occupied: | Left |
| Other Aircraft Rating(s): | None | Restraint Used: | Seatbelt, Shoulder harness |
| Instrument Rating(s): | Airplane | Second Pilot Present: | |
| Instructor Rating(s): | None | Toxicology Performed: | No |
| Medical Certification: | Class 2 Valid Medical--w/ waivers/lim. | Last FAA Medical Exam: | 08/08/1995 |
| Occupational Pilot: | | Last Flight Review or Equivalent: | |
| Flight Time: | 4918 hours (Total, all aircraft), 488 hours (Total, this make and model) | | |

Aircraft and Owner/Operator Information

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|-------------------------------|--------------------------|--------------------------------|-----------------|
| Aircraft Make: | Piper | Registration: | N234DM |
| Model/Series: | PA-46-310P PA-46-310P | Aircraft Category: | Airplane |
| Year of Manufacture: | | Amateur Built: | No |
| Airworthiness Certificate: | Normal | Serial Number: | 46-8408043 |
| Landing Gear Type: | Retractable - Tricycle | Seats: | 6 |
| Date/Type of Last Inspection: | 100 Hour | Certified Max Gross Wt.: | 4118 lbs |
| Time Since Last Inspection: | | Engines: | 1 Reciprocating |
| Airframe Total Time: | | Engine Manufacturer: | Continental |
| ELT: | Installed, not activated | Engine Model/Series: | TSIO-550-C1B |
| Registered Owner: | DELTA MIKE, INC. | Rated Power: | 310 hp |
| Operator: | DELTA MIKE, 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: | KHF, 19 ft msl | Distance from Accident Site: | 1 Nautical Miles |
| Observation Time: | 1521 EDT | Direction from Accident Site: | 290° |
| Lowest Cloud Condition: | Scattered / 4000 ft agl | Visibility | 10 Miles |
| Lowest Ceiling: | Overcast / 9000 ft agl | Visibility (RVR): | 0 ft |
| Wind Speed/Gusts: | 4 knots / | Turbulence Type Forecast/Actual: | / |
| Wind Direction: | 140° | Turbulence Severity Forecast/Actual: | / |
| Altimeter Setting: | 30 inches Hg | Temperature/Dew Point: | 24° C / 17° C |
| Precipitation and Obscuration: | | | |
| Departure Point: | (HFD) | Type of Flight Plan Filed: | None |
| Destination: | BLOCK ISLAND, RI (BID) | Type of Clearance: | |
| Departure Time: | 0000 | Type of Airspace: | Class D |

Airport Information

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|----------------------|-------------------------|---------------------------|---------|
| Airport: | HARTFORD-BRAINARD (HFD) | Runway Surface Type: | Asphalt |
| Airport Elevation: | 19 ft | Runway Surface Condition: | Dry |
| Runway Used: | 11 | IFR Approach: | None |
| Runway Length/Width: | 2315 ft / 71 ft | VFR Approach/Landing: | None |

Wreckage and Impact Information

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|---------------------|--------------------|----------------------|-----------|
| Crew Injuries: | 1 Minor | Aircraft Damage: | Destroyed |
| Passenger Injuries: | 2 Serious, 3 Minor | Aircraft Fire: | None |
| Ground Injuries: | N/A | Aircraft Explosion: | None |
| Total Injuries: | 2 Serious, 4 Minor | Latitude, Longitude: | |

Administrative Information

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|-----------------------------------|--|--------------|------------|
| Investigator In Charge (IIC): | BRIAN C RAYNER | Report Date: | 08/29/1997 |
| Additional Participating Persons: | PETER A LINDBERG; WINDSOR LOCKS, CT | | |
| 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/ . | | |

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

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](#).