



National Transportation Safety Board Aviation Accident Final Report

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| Location: | DAINGERFIELD, TX | Accident Number: | FTW99LA078 |
| Date & Time: | 02/02/1999, 1615 CST | Registration: | N44174 |
| Aircraft: | Taylorcraft BC12-D1 | Aircraft Damage: | Substantial |
| Defining Event: | | Injuries: | 1 Minor |

Flight Conducted Under: Part 91: General Aviation - Ferry

Analysis

The 1946 model airplane impacted trees following a loss of control. The pilot stated that the airplane was in cruise flight at 2,100 feet MSL, when he heard a 'loud pop.' The airplane spiraled to the left about 2.5 times before impacting trees. An aircraft mechanic and FAA inspector found the left wing cross brace wires loose, but could not determine if the loose wires were a pre-impact condition. They also found an aileron bolt installed upside down, 'causing it to rub against the wing.' The pilot could not remember if the aileron movement was restricted; he could only remember using full right rudder in attempt to keep the airplane level. Photographs of the airplane in the tree reveal that the ailerons were positioned for a right turn.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: An undetermined airframe malfunction which rendered the aircraft uncontrollable.

Findings

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

Findings

1. (C) AIRFRAME - UNDETERMINED

Occurrence #2: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: CRUISE

Findings

2. (C) AIRCRAFT CONTROL - NOT POSSIBLE - PILOT IN COMMAND

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Factual Information

On February 2, 1999, at 1615 central standard time, a Taylorcraft BC12-D1 tail-wheel equipped airplane, N44174, was substantially damaged when it impacted trees following a loss of control during cruise flight near Daingerfield, Texas. The airline transport pilot, who was the sole occupant, sustained minor injuries. The airplane was registered to and operated by C&B Aircraft of Powderly, Texas. Visual meteorological conditions prevailed for the Title 14 CFR Part 91 ferry flight and no flight plan was filed. The flight originated from the Shreveport Regional Airport, Shreveport, Louisiana, at 1507, and was destined for Paris, Texas.

According to the pilot, the airplane was in cruise flight at 2,100 feet MSL, when he heard a "loud pop." Subsequently, the airplane entered a "flat spiral to the left." The airplane spiraled 2.5 times before it impacted 75-foot trees and came to rest suspended in tree limbs 25 feet above the ground. The pilot exited the airplane and climbed down the tree unassisted.

An FAA inspector examined the airplane and reported that a wing spar was damaged and the propeller was destroyed. The fuselage, aft of the cockpit, was structurally damaged. In the enclosed Pilot/Operator Aircraft Accident Report (NTSB Form 6120.1/2), the pilot stated that "the cause of the accident was structural failure."

According to an aircraft mechanic, who examined the airplane in the presence of the FAA inspector, the left wing cross brace wires were found loose and intact, but he could not say with certainty if the loose wires were a pre-impact condition. The mechanic also stated that a bolt in the right aileron had been installed upside down, "causing it to rub against the wing." He could not determine if the bolt had restricted the pilot's ability to move the ailerons. The pilot could not remember if the aileron movement was restricted; he could only remember applying full right rudder in an attempt to keep the airplane from rolling left inverted. Photographs of the airplane in the tree show the ailerons positioned for a turn to the right (right aileron full up and left aileron full down).

According to the airplane's maintenance records, the last annual inspection on the engine and airframe was completed on November 15, 1998. Total time on the 1946 model airplane was reported at 1,632 hours. No other pertinent maintenance entries were noted.

Pilot Information

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| Certificate: | Airline Transport | Age: | 33, Male |
| Airplane Rating(s): | Multi-engine Land; Single-engine Land | Seat Occupied: | Left |
| Other Aircraft Rating(s): | None | Restraint Used: | Seatbelt |
| Instrument Rating(s): | Airplane | Second Pilot Present: | No |
| Instructor Rating(s): | None | Toxicology Performed: | No |
| Medical Certification: | Class 2 Valid Medical--no waivers/lim. | Last FAA Medical Exam: | 04/01/1998 |
| Occupational Pilot: | | Last Flight Review or Equivalent: | |
| Flight Time: | 2980 hours (Total, all aircraft), 18 hours (Total, this make and model), 2480 hours (Pilot In Command, all aircraft), 40 hours (Last 90 days, all aircraft), 12 hours (Last 30 days, all aircraft), 6 hours (Last 24 hours, all aircraft) | | |

Aircraft and Owner/Operator Information

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|--------------------------------------|--|---------------------------------------|-----------------|
| Aircraft Make: | Taylorcraft | Registration: | N44174 |
| Model/Series: | BC12-D1 BC12-D1 | Aircraft Category: | Airplane |
| Year of Manufacture: | | Amateur Built: | No |
| Airworthiness Certificate: | Normal | Serial Number: | 9974 |
| Landing Gear Type: | Tailwheel | Seats: | 2 |
| Date/Type of Last Inspection: | 11/15/1998, Annual | Certified Max Gross Wt.: | 800 lbs |
| Time Since Last Inspection: | 8 Hours | Engines: | 1 Reciprocating |
| Airframe Total Time: | 1632 Hours | Engine Manufacturer: | Continental |
| ELT: | Installed, activated, did not aid in locating accident | Engine Model/Series: | A-65-8 |
| Registered Owner: | KENNY W. HELM | Rated Power: | 65 hp |
| Operator: | KENNY W. HELM | 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: | TXK, 391 ft msl | Distance from Accident Site: | 38 Nautical Miles |
| Observation Time: | 1553 CST | Direction from Accident Site: | 225° |
| Lowest Cloud Condition: | Clear / 0 ft agl | Visibility | 10 Miles |
| Lowest Ceiling: | None / 0 ft agl | Visibility (RVR): | 0 ft |
| Wind Speed/Gusts: | 8 knots / | Turbulence Type Forecast/Actual: | / |
| Wind Direction: | 320° | Turbulence Severity Forecast/Actual: | / |
| Altimeter Setting: | 30 inches Hg | Temperature/Dew Point: | 17° C / 6° C |
| Precipitation and Obscuration: | | | |
| Departure Point: | SHREVEPORT, LA (SHV) | Type of Flight Plan Filed: | None |
| Destination: | PARIS, TX (PRX) | Type of Clearance: | None |
| Departure Time: | 1507 CST | Type of Airspace: | |

Wreckage and Impact Information

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|---------------------|---------|----------------------|-------------|
| Crew Injuries: | 1 Minor | Aircraft Damage: | Substantial |
| Passenger Injuries: | N/A | Aircraft Fire: | None |
| Ground Injuries: | N/A | Aircraft Explosion: | None |
| Total Injuries: | 1 Minor | Latitude, Longitude: | |

Administrative Information

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|-----------------------------------|--|--------------|------------|
| Investigator In Charge (IIC): | NICOLE LUPINO | Report Date: | 12/04/2000 |
| Additional Participating Persons: | ALAN KASHER; DALLAS, TX | | |
| 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 pubinquiry@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ . | | |

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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](#).