



National Transportation Safety Board

Aviation Accident Data Summary

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|--------------------------------|---|-------------------------|------------|
| Location: | Coatesville, PA | Accident Number: | NYC02LA070 |
| Date & Time: | 03/02/2002, 1140 EST | Registration: | N65021 |
| Aircraft: | Cessna 172P | Injuries: | 2 None |
| Flight Conducted Under: | Part 91: General Aviation - Instructional | | |

Analysis

While the student pilot was landing on runway 11, about 5 feet above the runway, a gust of wind was encountered, which lifted the right wing. The left main landing gear touched down and the gear spring twisted. The airplane began to drift to the left, and after the CFI "gave the student a second or two to recover from this position," he took the controls. Continuing to veer, the airplane departed the left side of the runway, where the left main landing gear collapsed. The airplane came to rest in a grass area. The left main landing gear spring was retained for further examination. According to the manufacturers technical report of the examination, the tubular spring for the left main landing gear fractured at the inboard end. The inboard end of the spring contained a longitudinal oriented fracture that intersected a fastener hole. The fracture face contained chevron marks typical of an overstress fracture that pointed back to the hole, indicating that the fracture emanated from the fastener hole. No evidence of corrosion was noted on the fracture region. Further examination revealed that the fastener hole contained machining marks and fretting. Review of the airplane's maintenance records revealed that the landing gear struts were removed from the fuselage, and floats were installed, in 1992. After about 2,158 hours of service, the floats were removed, and the original landing gear struts were re-installed. The airplane had accumulated about 3,598 hours of total service. The CFI reported that the winds at the airport, about the time of the accident, were from 180 degrees at 8 knots, gusting to 17 knots.

Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The student pilot's loss of aircraft control which resulted in a hard landing, and the CFI's delayed remedial action. Factors related to the accident were the fatigue cracks which initiated at the attachment hole on the landing gear strut, and the crosswind conditions.

Findings

Occurrence #1: HARD LANDING
Phase of Operation: LANDING - FLARE/TOUCHDOWN

- Findings
1. (F) LANDING GEAR,MAIN GEAR STRUT - FATIGUE
 2. (C) AIRCRAFT CONTROL - NOT MAINTAINED - PILOT IN COMMAND
 3. (F) WEATHER CONDITION - CROSSWIND
 4. (C) REMEDIAL ACTION - DELAYED - PILOT IN COMMAND(CFI)
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Occurrence #2: LOSS OF CONTROL - ON GROUND/WATER
Phase of Operation: LANDING - ROLL

Occurrence #3: GEAR COLLAPSED
Phase of Operation: LANDING - ROLL

Flight Instructor Information

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|----------------------------------|---|------------------------------|---|
| Certificate: | Flight Instructor; Commercial | Age: | 26 |
| Airplane Rating(s): | Multi-engine Land; Single-engine Land | Instrument Rating(s): | Airplane |
| Other Aircraft Rating(s): | None | Instructor Rating(s): | Airplane Single-engine; Instrument Airplane |
| Flight Time: | 2546 hours (Total, all aircraft), 600 hours (Total, this make and model), 2425 hours (Pilot In Command, all aircraft), 150 hours (Last 90 days, all aircraft), 50 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft) | | |

Student Pilot Information

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|----------------------------------|--|------------------------------|------|
| Certificate: | Student | Age: | 58 |
| Airplane Rating(s): | None | Instrument Rating(s): | None |
| Other Aircraft Rating(s): | None | Instructor Rating(s): | None |
| Flight Time: | 35 hours (Total, all aircraft), 35 hours (Total, this make and model), 15 hours (Last 90 days, all aircraft), 5 hours (Last 30 days, all aircraft) | | |

Aircraft and Owner/Operator Information

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|---------------------------------------|---|-----------------------------|-----------------|
| Aircraft Make: | Cessna | Registration: | N65021 |
| Model/Series: | 172P | Engines: | 1 Reciprocating |
| Operator: | David Marvin | Engine Manufacturer: | Lycoming |
| Operating Certificate(s) Held: | None | Engine Model/Series: | O-329-D2J |
| Flight Conducted Under: | Part 91: General Aviation - Instructional | | |

Meteorological Information and Flight Plan

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|---|-------------------------|-------------------------------------|------------------------------|
| Conditions at Accident Site: | Visual Conditions | Condition of Light: | Day |
| Observation Facility, Elevation: | PHL, 38 ft msl | Weather Information Source: | Weather Observation Facility |
| Lowest Ceiling: | Overcast / 20000 ft agl | Wind Speed/Gusts, Direction: | 10 knots / , 150° |
| Temperature: | 10° C | Visibility | 10 Miles |
| Precipitation and Obscuration: | | | |
| Departure Point: | West Chester, PA (N99) | Destination: | Cotesville, PA (40N) |

Airport Information

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|-----------------------------|----------------------|----------------------------------|---------|
| Airport: | Chester County (40N) | Runway Surface Type: | Asphalt |
| Runway Used: | 11 | Runway Surface Condition: | Dry |
| Runway Length/Width: | 5400 ft / 100 ft | | |

Wreckage and Impact Information

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|-----------------------------|-----------------------|----------------------------|-------------|
| Crew Injuries: | 2 None | Aircraft Damage: | Substantial |
| Passenger Injuries: | N/A | Aircraft Fire: | None |
| Ground Injuries: | N/A | Aircraft Explosion: | None |
| Latitude, Longitude: | 39.983056, -75.866389 | | |

Administrative Information

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|--------------------------------------|---|----------------------|------------|
| Investigator In Charge (IIC): | Stephen M Demko | Adopted Date: | 06/25/2003 |
| Investigation Docket: | NTSB accident and incident docket 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 pubin@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ . | | |

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