



National Transportation Safety Board Aviation Accident Data Summary

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|--------------------------------|--------------------------------------|-------------------------|------------|
| Location: | Oshkosh, WI | Accident Number: | CEN14LA401 |
| Date & Time: | 08/01/2014, 1415 CDT | Registration: | CF-HEZ |
| Aircraft: | MOSQUITO XE | Injuries: | 1 None |
| Flight Conducted Under: | Part 91: General Aviation - Personal | | |

Analysis

Just after takeoff, the experimental, amateur-built helicopter started to rotate and then impacted the ground in a level attitude, which resulted in substantial damage to the helicopter. Examination revealed that one tail rotor blade had separated from the tail rotor and gearbox assembly and that the blade had separated cleanly from the assembly; neither the collar nor the pins used to secure the blade were located. The pilot reported that he had been testing this tail rotor design for 4 years. A tension/torsion strap and two steel pins were used to retain the blade. The strap was not completely restricted from movement, and, over time, movement and wear resulted in the failure of the retaining assembly. The tail rotor assembly was a unique design and was not used in any other application.

Flight Events

Maneuvering - Part(s) separation from AC
Uncontrolled descent - Collision with terr/obj (non-CFIT)

Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The failure of the retaining assembly on the tail rotor blade, which resulted in the separation of the blade and the subsequent loss of helicopter control.

Findings

Aircraft-Aircraft propeller/rotor-Tail rotor-Tail rotor blade-Failure - C

Pilot Information

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|----------------------------------|---|------------------------------|------|
| Certificate: | Private | Age: | 50 |
| Airplane Rating(s): | Single-engine Land | Instrument Rating(s): | None |
| Other Aircraft Rating(s): | Helicopter | Instructor Rating(s): | None |
| Flight Time: | 399 hours (Total, all aircraft), 320 hours (Total, this make and model) | | |

Aircraft and Owner/Operator Information

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|---|--------------------------------------|-----------------------------|-----------------|
| Aircraft Manufacturer: | MOSQUITO | Registration: | CF-HEZ |
| Model/Series: | XE | Engines: | 1 Reciprocating |
| Operator: | On file | Engine Manufacturer: | Inntec |
| Air Carrier Operating Certificate: | None | Engine Model/Series: | Inntec 800 |
| Flight Conducted Under: | Part 91: General Aviation - Personal | | |

Meteorological Information and Flight Plan

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|---|----------------------------------|-------------------------------------|------------------------------|
| Observation Facility, Elevation: | KOSH, 808 ft msl | Weather Information Source: | Weather Observation Facility |
| Conditions at Accident Site: | Visual Conditions | Lowest Ceiling: | None |
| Condition of Light: | Day | Wind Speed/Gusts, Direction: | 3 knots, Variable |
| Temperature: | 27° C / 17° C | Visibility | 10 Miles |
| Precipitation and Obscuration: | No Obscuration; No Precipitation | | |
| Departure Point: | Oshkosh, WI (OSH) | Destination: | Oshkosh, WI (OSH) |

Airport Information

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|-----------------------------|---------------------------------|----------------------------------|-----|
| Airport: | Wittman Regional Airport (KOSH) | Runway Surface Type: | N/A |
| Runway Used: | N/A | Runway Surface Condition: | Dry |
| Runway Length/Width: | | | |

Wreckage and Impact Information

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|----------------------------|--------|----------------------------|-------------|
| Crew Injuries: | 1 None | Aircraft Damage: | Substantial |
| Passenger Injuries: | N/A | Aircraft Fire: | None |
| Ground Injuries: | N/A | Aircraft Explosion: | None |

Administrative Information

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|--------------------------------------|---|----------------------|------------|
| Investigator In Charge (IIC): | Jennifer Rodi | Adopted Date: | 01/14/2015 |
| Investigation Docket: | http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=89784 | | |

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.