



Aviation Investigation Final Report

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|--------------------------------|--------------------------------------|-------------------------|-------------|
| Location: | Warrenton, Virginia | Accident Number: | ERA23LA345 |
| Date & Time: | August 20, 2023, 19:30 Local | Registration: | N39721 |
| Aircraft: | Waco UPF-7 | Aircraft Damage: | Substantial |
| Defining Event: | Landing gear collapse | Injuries: | 3 None |
| Flight Conducted Under: | Part 91: General aviation - Personal | | |

Analysis

According to the pilot, after takeoff in the vintage tailwheel-equipped biplane, he was notified via radio that the right main landing gear was partially separated from the airframe. The pilot, returned to the airport and during landing, he continued to fly the airplane down the runway with the right main landing gear in the air until the airplane decelerated and settled onto the turf runway. Once the airplane slowed, it “ground loop[ed]” and came to rest on the nose, which resulted in substantial damage to the left wing. Postaccident examination revealed that the inner strut had separated from the outer strut but remained partially attached.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

A ground loop during landing resulting from a partial separation of the right main landing gear strut during takeoff.

Findings

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|-----------------|---|
| Aircraft | Directional control - Not attained/maintained |
| Aircraft | Main landing gear - Damaged/degraded |

Factual Information

History of Flight

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| Takeoff | Part(s) separation from AC |
| Landing | Landing gear collapse (Defining event) |

Pilot Information

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|---------------------------|---------------------------------------|-----------------------------------|---------|
| Certificate: | Commercial | Age: | 50,Male |
| Airplane Rating(s): | Single-engine land; Single-engine sea | Seat Occupied: | Unknown |
| Other Aircraft Rating(s): | None | Restraint Used: | Unknown |
| Instrument Rating(s): | None | Second Pilot Present: | No |
| Instructor Rating(s): | Sport pilot | Toxicology Performed: | |
| Medical Certification: | Unknown Unknown | Last FAA Medical Exam: | |
| Occupational Pilot: | Yes | Last Flight Review or Equivalent: | |
| Flight Time: | | | |

Aircraft and Owner/Operator Information

| | | | |
|-------------------------------|--|--------------------------------|-----------------|
| Aircraft Make: | Waco | Registration: | N39721 |
| Model/Series: | UPF-7 | Aircraft Category: | Airplane |
| Year of Manufacture: | 1942 | Amateur Built: | |
| Airworthiness Certificate: | Normal | Serial Number: | 5854 |
| Landing Gear Type: | Tailwheel | Seats: | 3 |
| Date/Type of Last Inspection: | May 1, 2023 Annual | Certified Max Gross Wt.: | |
| Time Since Last Inspection: | | Engines: | 1 Reciprocating |
| Airframe Total Time: | | Engine Manufacturer: | Continental |
| ELT: | Installed, activated, did not aid in locating accident | Engine Model/Series: | R-670-6A |
| Registered Owner: | On file | Rated Power: | 220 Horsepower |
| Operator: | On file | Operating Certificate(s) Held: | None |

Meteorological Information and Flight Plan

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|----------------------------------|----------------------------------|--------------------------------------|------------------|
| Conditions at Accident Site: | Visual (VMC) | Condition of Light: | Day |
| Observation Facility, Elevation: | HWY,338 ft msl | Distance from Accident Site: | 2 Nautical Miles |
| Observation Time: | 19:35 Local | Direction from Accident Site: | 6° |
| Lowest Cloud Condition: | Clear | Visibility | 10 miles |
| Lowest Ceiling: | None | Visibility (RVR): | |
| Wind Speed/Gusts: | 3 knots / | Turbulence Type Forecast/Actual: | None / None |
| Wind Direction: | 170° | Turbulence Severity Forecast/Actual: | N/A / N/A |
| Altimeter Setting: | 30.09 inches Hg | Temperature/Dew Point: | 29°C / 15°C |
| Precipitation and Obscuration: | No Obscuration; No Precipitation | | |
| Departure Point: | Warrenton, VA | Type of Flight Plan Filed: | None |
| Destination: | Warrenton, VA | Type of Clearance: | None |
| Departure Time: | | Type of Airspace: | Class E |

Airport Information

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|----------------------|---------------------------------|---------------------------|-----------------|
| Airport: | FLYING CIRCUS AERODROME 3VA3 | Runway Surface Type: | Grass/turf |
| Airport Elevation: | 315 ft msl | Runway Surface Condition: | Dry |
| Runway Used: | 22 | IFR Approach: | None |
| Runway Length/Width: | 2500 ft / 200 ft | VFR Approach/Landing: | Traffic pattern |

Wreckage and Impact Information

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|---------------------|--------|----------------------|---------------------------|
| Crew Injuries: | 1 None | Aircraft Damage: | Substantial |
| Passenger Injuries: | 2 None | Aircraft Fire: | None |
| Ground Injuries: | N/A | Aircraft Explosion: | None |
| Total Injuries: | 3 None | Latitude, Longitude: | 38.550401,-77.715824(est) |

Administrative Information

Investigator In Charge (IIC): Kemner, Heidi

Additional Participating Persons: Ramon Smeltz; FAA/FSDO; Dulles, VA

Original Publish Date: November 16, 2023

Last Revision Date:

Investigation Class: [Class 4](#)

Note: The NTSB did not travel to the scene of this accident.

Investigation Docket: <https://data.nts.gov/Docket?ProjectID=192912>

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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](#).