



Aviation Investigation Final Report

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| Location: | Merritt Island, Florida | Accident Number: | ERA13LA127 |
| Date & Time: | February 6, 2013, 18:10 Local | Registration: | N5072R |
| Aircraft: | Hiller UH-12B | Aircraft Damage: | Substantial |
| Defining Event: | Loss of engine power (total) | Injuries: | 1 Minor, 2 None |
| Flight Conducted Under: | Part 91: General aviation - Other work use | | |

Analysis

The pilot reported that, during the initial climb, when the helicopter was about 75 feet above ground level, he heard a "pop" noise, and the engine then lost total power. The pilot performed an autorotation, and the helicopter subsequently landed hard on a taxiway. A postaccident examination of the helicopter revealed that the fuel supply line from the gascolator to the mechanical fuel pump was not attached and that the fuel supply line and fitting were broken where they attached to the gascolator. Examination determined that the fuel fitting separated due to overstress. It is likely that, when the fuel supply line fitting broke off of the gascolator, it resulted in a loss of fuel supply to the engine, subsequent fuel starvation, and a total loss of engine power.

Probable Cause and Findings

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

A total loss of engine power due to fuel starvation, which resulted from an overstress failure of a fitting on the fuel supply line and led to an autorotation and hard landing.

Findings

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| Aircraft | Fuel distribution - Failure |
| Aircraft | Fuel - Fluid level |

Factual Information

History of Flight

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| Initial climb | Loss of engine power (total) (Defining event) |
| Autorotation | Hard landing |

On February 6, 2013, about 1810 eastern standard time, a Hiller UH-12B, N5072R, impacted a taxiway after the helicopter experienced a total loss of engine power after takeoff from the Merritt Island Airport (COI), Merritt Island, Florida. One passenger sustained minor injuries, and the commercial pilot and another passenger were not injured. The helicopter was owned by a corporation and operated by Florida Biplanes under Title 14 Code of Federal Regulations Part 91 as a sightseeing flight. Visual meteorological conditions prevailed and no flight plan was filed for the local flight.

According to the pilot, he performed a preflight and engine run up with no anomalies noted. In addition, he performed five sightseeing flights prior to the accident flight. On the sixth flight, during the initial climb, about 75 feet above ground level, the pilot heard a "pop" noise just prior to the loss of engine power. He performed an autorotation and the helicopter impacted a taxiway.

A postaccident examination of the wreckage by a Federal Aviation Administration inspector revealed that the helicopter incurred substantial damage to the engine mounts, main rotor blades, tail rotor, and tail boom. The inspector disconnected the fuel supply line from the electric fuel pump to the carburetor and operated the fuel pump; however, no fuel was observed in the fuel line. He disconnected the fuel supply line from the gascolator to the electric fuel pump and noted no fuel in the supply line and removed the fuel filter and examined it with no debris or obstructions noted. He verified fuel was in the gascolator drain. The inspector then discovered the fuel supply line from the gascolator to the mechanical fuel pump was not attached and that the fuel supply line and fitting was broken where it attached to the gascolator. The fuel fitting was inspected by the NTSB materials laboratory in Washington, D. C. Microscopic analysis of the part revealed that both ends of the fitting failed due to overstress.

According to the helicopter maintenance records, the most recent annual inspection was performed on May 1, 2012. At that time, the helicopter had a total tachometer time of 75.2 hours. At the time of the accident, the tachometer indicated 114.6 hours. According to the Hiller Helicopters Model UH-12B Flight Manual, the fuel system consists of a fuel tank, an engine-driven fuel pump, an electrical auxiliary fuel pump, a fuel quantity gauge, strainer, shut-off valve, and the necessary lines and fittings.

Pilot Information

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| Certificate: | Commercial; Flight instructor | Age: | 42 |
| Airplane Rating(s): | Single-engine land | Seat Occupied: | Right |
| Other Aircraft Rating(s): | Helicopter | Restraint Used: | |
| Instrument Rating(s): | None | Second Pilot Present: | No |
| Instructor Rating(s): | Helicopter | Toxicology Performed: | No |
| Medical Certification: | Class 2 Without waivers/limitations | Last FAA Medical Exam: | August 1, 2012 |
| Occupational Pilot: | Yes | Last Flight Review or Equivalent: | January 20, 2012 |
| Flight Time: | 977 hours (Total, all aircraft), 20 hours (Total, this make and model), 165 hours (Last 90 days, all aircraft) | | |

Aircraft and Owner/Operator Information

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| Aircraft Make: | Hiller | Registration: | N5072R |
| Model/Series: | UH-12B | Aircraft Category: | Helicopter |
| Year of Manufacture: | | Amateur Built: | |
| Airworthiness Certificate: | Normal | Serial Number: | 613 |
| Landing Gear Type: | Skid | Seats: | 4 |
| Date/Type of Last Inspection: | May 1, 2012 Annual | Certified Max Gross Wt.: | 2700 lbs |
| Time Since Last Inspection: | | Engines: | 1 Reciprocating |
| Airframe Total Time: | 3072 Hrs at time of accident | Engine Manufacturer: | FRANKLIN |
| ELT: | Installed, not activated | Engine Model/Series: | 6V 350 SERIES |
| Registered Owner: | HOWE ENTERPRISES LLC | Rated Power: | 235 Horsepower |
| Operator: | Florida Biplane | 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: | COF,8 ft msl | Distance from Accident Site: | 9 Nautical Miles |
| Observation Time: | 17:55 Local | Direction from Accident Site: | 125° |
| Lowest Cloud Condition: | Clear | Visibility | 10 miles |
| Lowest Ceiling: | None | Visibility (RVR): | |
| Wind Speed/Gusts: | / | Turbulence Type Forecast/Actual: | / |
| Wind Direction: | | Turbulence Severity Forecast/Actual: | / |
| Altimeter Setting: | 30.1 inches Hg | Temperature/Dew Point: | 18°C / 16°C |
| Precipitation and Obscuration: | No Obscuration; No Precipitation | | |
| Departure Point: | Merritt Island, FL (COI) | Type of Flight Plan Filed: | None |
| Destination: | Merritt Island, FL (COI) | Type of Clearance: | None |
| Departure Time: | 18:10 Local | Type of Airspace: | |

Airport Information

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|-----------------------------|----------------------------|----------------------------------|----------------|
| Airport: | Merritt Island Airport COI | Runway Surface Type: | |
| Airport Elevation: | 6 ft msl | Runway Surface Condition: | Dry |
| Runway Used: | 11 | IFR Approach: | None |
| Runway Length/Width: | 3601 ft / 75 ft | VFR Approach/Landing: | Forced landing |

Wreckage and Impact Information

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|----------------------------|-----------------|-----------------------------|---------------------------|
| Crew Injuries: | 1 None | Aircraft Damage: | Substantial |
| Passenger Injuries: | 1 Minor, 1 None | Aircraft Fire: | None |
| Ground Injuries: | N/A | Aircraft Explosion: | None |
| Total Injuries: | 1 Minor, 2 None | Latitude, Longitude: | 28.341388,-80.685279(est) |

Administrative Information

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| Investigator In Charge (IIC): | Murray, Patrick |
| Additional Participating Persons: | Marco Grillo; FAA/FSDO; Orlando, FL |
| Original Publish Date: | November 13, 2014 |
| Last Revision Date: | |
| Investigation Class: | Class |
| Note: | |
| Investigation Docket: | https://data.nts.gov/Docket?ProjectID=86159 |

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

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](#).