



Aviation Investigation Final Report

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|--------------------------------|--------------------------------------|-------------------------|-------------|
| Location: | Goldsby, Oklahoma | Accident Number: | CEN23LA152 |
| Date & Time: | April 8, 2023, 18:30 Local | Registration: | N48PS |
| Aircraft: | Vans RV6 | Aircraft Damage: | Substantial |
| Defining Event: | Loss of engine power (partial) | Injuries: | 1 Minor |
| Flight Conducted Under: | Part 91: General aviation - Personal | | |

Analysis

Shortly after takeoff, the pilot experienced a partial loss of engine power and turned back to the airport to land. During the “tight” left traffic pattern, the left wing contacted the runway and the pilot lost control of the airplane, resulting in substantial damage to the left wing, fuselage, and vertical stabilizer.

Postaccident examination of the engine found the No. 1 electronic ignition lead was loose and detached from the ignition coil. Additionally, the ignition coil package mount bolt was loose, which would have allowed the grouping to vibrate during engine operation.

Probable Cause and Findings

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

The engine electronic ignition system became disconnected, which resulted in a partial loss of engine power.

Findings

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| Aircraft | Ignition system wiring - Malfunction |
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Factual Information

History of Flight

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| Initial climb | Loss of engine power (partial) (Defining event) |
| Landing-flare/touchdown | Hard landing |
| Landing-landing roll | Runway excursion |

On April 8, 2023, about 1830 central standard time, an amateur-built Vans RV-6A airplane, N48PS, was substantially damaged when it was involved in an accident near Goldsby, Oklahoma. The pilot sustained minor injuries. The airplane was operated under the provisions of Title 14 *Code of Federal Regulations* Part 91 as a personal flight.

The local flight departed runway 13 at the David Jay Perry Airport, Goldsby, Oklahoma. The pilot stated that, about 8-10 seconds after he rotated the airplane, the engine made loud popping/banging sounds and he experienced a reduction in engine power. He maneuvered the airplane to land on runway 13 in a “tight” left traffic pattern. During the landing, the left wing contacted the runway and the airplane landed hard. The pilot lost control of the airplane as it departed the runway and rolled inverted. Substantial damage was sustained to the left wing, fuselage, and to the horizontal and vertical stabilizers.

Postaccident examination of the engine found that it was equipped with a Champion Slick impulse magneto that sparked the lower bank of aviation spark plugs and an electronic ignition system that sparked the upper bank of automotive spark plugs. The No. 1 electronic ignition lead was loose and detached from the ignition coil. Additionally, the ignition coil package mount bolt was loose, which would have allowed the grouping to vibrate during engine operation.

Pilot Information

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| Certificate: | Private | Age: | 44,Male |
| Airplane Rating(s): | Single-engine land | Seat Occupied: | Left |
| Other Aircraft Rating(s): | Helicopter | Restraint Used: | 5-point |
| Instrument Rating(s): | None | Second Pilot Present: | No |
| Instructor Rating(s): | None | Toxicology Performed: | |
| Medical Certification: | Class 2 Without waivers/limitations | Last FAA Medical Exam: | May 20, 2022 |
| Occupational Pilot: | Yes | Last Flight Review or Equivalent: | April 29, 2022 |
| Flight Time: | 512.4 hours (Total, all aircraft), 40 hours (Total, this make and model), 364.4 hours (Pilot In Command, all aircraft), 0.3 hours (Last 90 days, all aircraft), 0.3 hours (Last 30 days, all aircraft) | | |

Aircraft and Owner/Operator Information

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|--------------------------------------|---|---------------------------------------|-----------------|
| Aircraft Make: | Vans | Registration: | N48PS |
| Model/Series: | RV6 A | Aircraft Category: | Airplane |
| Year of Manufacture: | 2017 | Amateur Built: | Yes |
| Airworthiness Certificate: | Experimental (Special) | Serial Number: | 25349 |
| Landing Gear Type: | Tricycle | Seats: | 2 |
| Date/Type of Last Inspection: | August 17, 2022 Condition | Certified Max Gross Wt.: | 1650 lbs |
| Time Since Last Inspection: | 8 Hrs | Engines: | 1 Reciprocating |
| Airframe Total Time: | 219 Hrs at time of accident | Engine Manufacturer: | Superior |
| ELT: | C126 installed, activated, did not aid in locating accident | Engine Model/Series: | XP-360-B1C2 |
| Registered Owner: | On file | Rated Power: | 180 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: | KOUN,1182 ft msl | Distance from Accident Site: | 0 Nautical Miles |
| Observation Time: | 18:49 Local | Direction from Accident Site: | |
| Lowest Cloud Condition: | Clear | Visibility | 10 miles |
| Lowest Ceiling: | None | Visibility (RVR): | |
| Wind Speed/Gusts: | 8 knots / | Turbulence Type Forecast/Actual: | / |
| Wind Direction: | 140° | Turbulence Severity Forecast/Actual: | / |
| Altimeter Setting: | 30.07 inches Hg | Temperature/Dew Point: | 22°C / -3°C |
| Precipitation and Obscuration: | No Obscuration; No Precipitation | | |
| Departure Point: | Goldsby, OK | Type of Flight Plan Filed: | None |
| Destination: | Goldsby, OK | Type of Clearance: | None |
| Departure Time: | | Type of Airspace: | Class D |

Airport Information

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|----------------------|---------------------|---------------------------|--------------------------|
| Airport: | DAVID JAY PERRY 1K4 | Runway Surface Type: | Concrete |
| Airport Elevation: | 1168 ft msl | Runway Surface Condition: | Dry |
| Runway Used: | 13 | IFR Approach: | None |
| Runway Length/Width: | 3004 ft / 60 ft | VFR Approach/Landing: | Forced landing;Full stop |

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: | 35.155068,-97.470394(est) |

Administrative Information

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| Investigator In Charge (IIC): | Aguilera, Jason |
| Additional Participating Persons: | Thomas LaNou; FAA FSDO; Oklahoma City, OK |
| Original Publish Date: | March 28, 2024 |
| Last Revision Date: | |
| Investigation Class: | Class 3 |
| Note: | The NTSB did not travel to the scene of this accident. |
| Investigation Docket: | https://data.nts.gov/Docket?ProjectID=107044 |

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](#).