



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

# Aviation Investigation Final Report

|                                |                                      |                         |             |
|--------------------------------|--------------------------------------|-------------------------|-------------|
| <b>Location:</b>               | Udall, Kansas                        | <b>Accident Number:</b> | CEN23LA169  |
| <b>Date &amp; Time:</b>        | May 2, 2023, 20:13 Local             | <b>Registration:</b>    | N750TK      |
| <b>Aircraft:</b>               | Zenith STOL CH750                    | <b>Aircraft Damage:</b> | Substantial |
| <b>Defining Event:</b>         | Collision during takeoff/land        | <b>Injuries:</b>        | 1 None      |
| <b>Flight Conducted Under:</b> | Part 91: General aviation - Personal |                         |             |

## Analysis

The pilot reported that while on a cross-country flight he experienced an “engine stumble,” which then returned to normal operation so he continued for about 12 more miles over open fields. During an attempted climbing turn, the engine sustained a “prolonged stumble” and a loss of power that did not improve. As the pilot set up for a forced landing on a road, the airplane’s vertical stabilizer impacted a power line, so he aborted the landing. The pilot made a climbing left turn as engine power was restored. The pilot continued the flight to his destination airport and landed without further incident.

A witness reported seeing the airplane flying low in front of his property. The witness reported hearing engine noise and did not hear any indication of a rough running engine. The witness stated he heard a noise and then saw power lines moving. He reported the airplane flew under the power lines and then climbed up again.

Postaccident examination of the airplane revealed substantial damage to the vertical stabilizer. A functional test run of the engine revealed that it achieved full power with no anomalies noted. The carburetors exhibited some fuel staining; however, examination of both carburetors revealed no malfunctions or failures that would have precluded normal operation. As a result, the reason for the reported loss of engine power could not be determined.

Automatic dependent surveillance – broadcast (ADS-B) data showed the airplane climbed to an altitude of about 1,000 ft above ground level (agl) after takeoff. About 14 miles after departure, the airplane descended, and remained at altitudes below 300 ft agl until it collided with the power lines. The airplane then climbed to and maintained an altitude of 1,100 ft agl, before it descended to land at the destination airport.

# Probable Cause and Findings

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

The pilot’s failure to maintain clearance from power lines. Contributing to the accident was the reported loss of engine power for reasons that could not be determined.

| Findings             |                                    |
|----------------------|------------------------------------|
| Personnel issues     | (general) - Pilot                  |
| Environmental issues | Wire - Response/compensation       |
| Aircraft             | (general) - Unknown/Not determined |

# Factual Information

## History of Flight

|         |  |
|---------|--|
| Enroute | Unknown or undetermined                        |
| Landing | Collision during takeoff/land (Defining event) |

On May 2, 2023, about 2013 central daylight time, a Zenith STOL CH750 airplane, N750TK, sustained substantial damage when it was involved in an accident near Udall, Kansas. The pilot was not injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The pilot reported that while en route to Cook Airfield (K50), Rose Hill, Kansas, he experienced an “engine stumble.” He descended toward open fields and the engine returned to normal operation. The pilot continued over open fields for about 12 more miles. During an attempted climbing turn, the engine sustained a “prolonged stumble” and a loss of power that did not improve. The pilot maneuvered the airplane for a forced landing to a road. During the landing attempt the airplane struck a power line. The pilot aborted the landing attempt, engine power was restored, and he flew about 10 miles to K50 for an uneventful landing.

A witness reported seeing the airplane flying low towards his house. He provided a photo of the airplane in flight, right before it struck the power line (see Figure 1). He stated that he saw the airplane fly under power lines, heard a noise, and then saw the power lines moving. He stated that he heard engine noise and that there was no indication of a rough running engine. After striking the power lines, the airplane climbed and flew to the northwest at “treetop height.”



*Figure 1. A witness photo that shows the accident airplane right before it struck the power line. The airplane is circled in red and the power lines are labeled in yellow.*

Postaccident examination of the airplane revealed substantial damage to the vertical stabilizer. The engine's right carburetor exhibited fuel staining around the choke housing and in the drip pan. The left carburetor had fuel staining around one screw on the choke housing. The throttle cable exhibited chafing where it passed through the firewall. The engine started and was run up to full rpm and no discrepancies were noted. The carburetors were removed and an examination revealed no indication of malfunction or failure that would have precluded normal operation. The throttle cable chafing did not inhibit carburetor operation.

A review of the airplane's logbooks revealed that the engine was installed on August 27, 2016. The last condition inspection was completed on January 4, 2023. At that time the engine had accumulated 591.76 hours.

A review of ADS-B data showed the airplane departed Ponca City Regional Airport (PNC), Ponca City, Oklahoma, about 1939 and climbed to an altitude of about 1,000 ft agl. About 14 miles north of PNC, the airplane descended and remained at altitudes below 300 ft agl until the area of the power line collision. Then, the airplane climbed and ultimately reached the maximum altitude of the entire flight, about 1100 ft agl, before it descended to land on runway 35 at K50.

### Pilot Information

|                                  |   |  |                   |
|----------------------------------|---|--|-------------------|
| <b>Certificate:</b>              | Private   | <b>Age:</b>                              | 65, Male          |
| <b>Airplane Rating(s):</b>       | Single-engine land  | <b>Seat Occupied:</b>                    | Left              |
| <b>Other Aircraft Rating(s):</b> | None  | <b>Restraint Used:</b>                   |                   |
| <b>Instrument Rating(s):</b>     | None  | <b>Second Pilot Present:</b>             |                   |
| <b>Instructor Rating(s):</b>     | None  | <b>Toxicology Performed:</b>             |                   |
| <b>Medical Certification:</b>    | Class 3 With waivers/limitations  | <b>Last FAA Medical Exam:</b>            | September 1, 2021 |
| <b>Occupational Pilot:</b>       | No  | <b>Last Flight Review or Equivalent:</b> | May 24, 2022      |
| <b>Flight Time:</b>              | 665 hours (Total, all aircraft), 610 hours (Total, this make and model), 14 hours (Last 90 days, all aircraft), 5 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft) |  |                   |

### Aircraft and Owner/Operator Information

|                                      |                                |                                       |                 |
|--------------------------------------|--------------------------------|---------------------------------------|-----------------|
| <b>Aircraft Make:</b>                | Zenith                         | <b>Registration:</b>                  | N750TK          |
| <b>Model/Series:</b>                 | STOL CH750                     | <b>Aircraft Category:</b>             | Airplane        |
| <b>Year of Manufacture:</b>          | 2014                           | <b>Amateur Built:</b>                 | Yes             |
| <b>Airworthiness Certificate:</b>    | Experimental (Special)         | <b>Serial Number:</b>                 | 75-7953         |
| <b>Landing Gear Type:</b>            | Tricycle                       | <b>Seats:</b>                         | 2               |
| <b>Date/Type of Last Inspection:</b> | January 4, 2023 Condition      | <b>Certified Max Gross Wt.:</b>       | 1330 lbs        |
| <b>Time Since Last Inspection:</b>   | 17.92 Hrs                      | <b>Engines:</b>                       | 1 Reciprocating |
| <b>Airframe Total Time:</b>          | 609.68 Hrs at time of accident | <b>Engine Manufacturer:</b>           | Rotax           |
| <b>ELT:</b>                          | C126 installed, not activated  | <b>Engine Model/Series:</b>           | 100ULS          |
| <b>Registered Owner:</b>             | MCCALL TIMOTHY D               | <b>Rated Power:</b>                   | 100 Horsepower  |
| <b>Operator:</b>                     | On file                        | <b>Operating Certificate(s) Held:</b> | None            |

## Meteorological Information and Flight Plan

|   |                                  |   |                   |
|---|----------------------------------|---|-------------------|
| <b>Conditions at Accident Site:</b>     | Visual (VMC)                     | <b>Condition of Light:</b>                  | Dusk              |
| <b>Observation Facility, Elevation:</b> | KEGT, 1273 ft msl                | <b>Distance from Accident Site:</b>         | 13 Nautical Miles |
| <b>Observation Time:</b>                | 20:15 Local                      | <b>Direction from Accident Site:</b>        | 246°              |
| <b>Lowest Cloud Condition:</b>          | Clear                            | <b>Visibility</b>                           | 10 miles          |
| <b>Lowest Ceiling:</b>                  | None                             | <b>Visibility (RVR):</b>                    |                   |
| <b>Wind Speed/Gusts:</b>                | 7 knots /                        | <b>Turbulence Type Forecast/Actual:</b>     | /                 |
| <b>Wind Direction:</b>                  | 10°                              | <b>Turbulence Severity Forecast/Actual:</b> | /                 |
| <b>Altimeter Setting:</b>               | 29.98 inches Hg                  | <b>Temperature/Dew Point:</b>               | 15°C / -2°C       |
| <b>Precipitation and Obscuration:</b>   | No Obscuration; No Precipitation |   |                   |
| <b>Departure Point:</b>                 | Ponca City, OK (KPNC)            | <b>Type of Flight Plan Filed:</b>           | None              |
| <b>Destination:</b>                     | Rose Hill, KS (K50)              | <b>Type of Clearance:</b>                   | None              |
| <b>Departure Time:</b>                  | 19:37 Local                      | <b>Type of Airspace:</b>                    | Class G           |

## Airport Information

|                             |                   |                                  |      |
|-----------------------------|-------------------|----------------------------------|------|
| <b>Airport:</b>             | COOK AIRFIELD K50 | <b>Runway Surface Type:</b>      |      |
| <b>Airport Elevation:</b>   | 1345 ft msl       | <b>Runway Surface Condition:</b> |      |
| <b>Runway Used:</b>         |                   | <b>IFR Approach:</b>             | None |
| <b>Runway Length/Width:</b> |                   | <b>VFR Approach/Landing:</b>     |      |

## Wreckage and Impact Information

|                            |        |                             |                          |
|----------------------------|--------|-----------------------------|--------------------------|
| <b>Crew Injuries:</b>      | 1 None | <b>Aircraft Damage:</b>     | Substantial              |
| <b>Passenger Injuries:</b> |        | <b>Aircraft Fire:</b>       | None                     |
| <b>Ground Injuries:</b>    | N/A    | <b>Aircraft Explosion:</b>  | None                     |
| <b>Total Injuries:</b>     | 1 None | <b>Latitude, Longitude:</b> | 37.415179, -97.1322(est) |

## Administrative Information

**Investigator In Charge (IIC):** Rutt, Brian

**Additional Participating Persons:** Kevin Rowse; FAA Wichita FSDO

**Original Publish Date:** May 14, 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=107810>

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](#).