



# Aviation Investigation Final Report

|                                |                                      |                         |             |
|--------------------------------|--------------------------------------|-------------------------|-------------|
| <b>Location:</b>               | Blossom, Texas                       | <b>Accident Number:</b> | CEN21LA326  |
| <b>Date &amp; Time:</b>        | July 17, 2021, 16:10 Local           | <b>Registration:</b>    | N9667Z      |
| <b>Aircraft:</b>               | GARY JAMES LAIL ZENITH CH 750 CRUZER | <b>Aircraft Damage:</b> | Substantial |
| <b>Defining Event:</b>         | Sys/Comp malf/fail (non-power)       | <b>Injuries:</b>        | 2 Serious   |
| <b>Flight Conducted Under:</b> | Part 91: General aviation - Personal |                         |             |

## Analysis

Immediately after takeoff, the experimental airplane experienced a rudder control malfunction, and the pilot landed back on the runway. The pilot was unable to maintain control, and the airplane departed the runway. During the runway excursion, the airplane sustained substantial damage to the fuselage, empennage, and both wings.

A postaccident examination of the flight controls revealed that the control cable that should have been connected to the pilot's left rudder pedal was separated at the point where it had been swaged to the end fitting. The other flight control cables were swaged in a similar manner, and all were done improperly according to the airplane kit manufacturer. There were no other anomalies noted with the airplane.

The airplane was built about 3 years before the accident, and the airplane maintenance logbooks did not show any entries related to the rudder cables. Therefore, it is likely that the cables were improperly swaged during the original build of the airplane, and the error was not discovered during subsequent condition inspections.

## Probable Cause and Findings

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

The improper swaging of the rudder control cable, which disconnected during flight and resulted in the loss of control.

## Findings

|                         |   |
|-------------------------|---|
| <b>Aircraft</b>         | Rudder control system - Incorrect service/maintenance |
| <b>Aircraft</b>         | Rudder control system - Failure                       |
| <b>Personnel issues</b> | Fabrication - Maintenance personnel                   |

# Factual Information

## History of Flight

|                 |   |
|-----------------|---|
| Prior to flight | Aircraft maintenance event                      |
| Initial climb   | Sys/Comp malf/fail (non-power) (Defining event) |

On July 17, 2021, about 1610 central daylight time, an experimental Zenith CH 750 airplane, N9667Z, was substantially damaged when it was involved in an accident near Blossom, Texas. The pilot and passenger received serious injuries. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The responding Federal Aviation Administration (FAA) inspector stated that shortly after takeoff from a private grass airstrip, the airplane experienced a rudder control malfunction. The pilot landed back on the airstrip, but he was unable to control the airplane, which departed the runway and came to rest on a road. During the runway excursion, the airplane sustained substantial damage to the fuselage, empennage, and both wings.

A postaccident examination of the flight controls revealed that the control cable that should have been connected to the pilot’s left rudder pedal was separated at the point where it had been swaged to the end fitting. The other flight control cables were swaged in a similar manner, and all done improperly according to the airplane kit manufacturer. There were no other anomalies noted with the airplane.

The airplane maintenance logbooks revealed that the airplane received an experimental airworthiness certificate in 2018, and there were no entries related to the rudder control cables. The logbook also showed that the last condition inspection was completed on November 18, 2020, “in accordance with the scope and detail of Part 43 appendix D,” and the airplane was “determined to be in a condition for safe operation.”

## Pilot Information

|                                  |  |  |                |
|----------------------------------|--|--|----------------|
| <b>Certificate:</b>              | Private  | <b>Age:</b>                              | 66, Male       |
| <b>Airplane Rating(s):</b>       | Single-engine sea  | <b>Seat Occupied:</b>                    | Left           |
| <b>Other Aircraft Rating(s):</b> | None   | <b>Restraint Used:</b>                   | 3-point        |
| <b>Instrument Rating(s):</b>     | None   | <b>Second Pilot Present:</b>             | No             |
| <b>Instructor Rating(s):</b>     | None   | <b>Toxicology Performed:</b>             |                |
| <b>Medical Certification:</b>    | BasicMed   | <b>Last FAA Medical Exam:</b>            | April 30, 2020 |
| <b>Occupational Pilot:</b>       | No   | <b>Last Flight Review or Equivalent:</b> | May 8, 2021    |
| <b>Flight Time:</b>              | 1210 hours (Total, all aircraft), 60 hours (Total, this make and model), 1210 hours (Pilot In Command, all aircraft) |  |                |

## Aircraft and Owner/Operator Information

|                                      |                             |                                       |                 |
|--------------------------------------|-----------------------------|---------------------------------------|-----------------|
| <b>Aircraft Make:</b>                | GARY JAMES LAIL             | <b>Registration:</b>                  | N9667Z          |
| <b>Model/Series:</b>                 | ZENITH CH 750 CRUZER        | <b>Aircraft Category:</b>             | Airplane        |
| <b>Year of Manufacture:</b>          | 2018                        | <b>Amateur Built:</b>                 | Yes             |
| <b>Airworthiness Certificate:</b>    | Experimental (Special)      | <b>Serial Number:</b>                 | C75-10349       |
| <b>Landing Gear Type:</b>            | Tricycle                    | <b>Seats:</b>                         | 2               |
| <b>Date/Type of Last Inspection:</b> | December 1, 2020 Annual     | <b>Certified Max Gross Wt.:</b>       | 1320 lbs        |
| <b>Time Since Last Inspection:</b>   |                             | <b>Engines:</b>                       | 1 Reciprocating |
| <b>Airframe Total Time:</b>          | 101 Hrs at time of accident | <b>Engine Manufacturer:</b>           | UL Power        |
| <b>ELT:</b>                          | Installed                   | <b>Engine Model/Series:</b>           | 350i            |
| <b>Registered Owner:</b>             | On file                     | <b>Rated Power:</b>                   | 118 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>                  | Day              |
| <b>Observation Facility, Elevation:</b> | KPRX, 547 ft msl                 | <b>Distance from Accident Site:</b>         | 4 Nautical Miles |
| <b>Observation Time:</b>                | 16:56 Local                      | <b>Direction from Accident Site:</b>        | 253°             |
| <b>Lowest Cloud Condition:</b>          | Few / 5000 ft AGL                | <b>Visibility</b>                           | 10 miles         |
| <b>Lowest Ceiling:</b>                  |                                  | <b>Visibility (RVR):</b>                    |                  |
| <b>Wind Speed/Gusts:</b>                | 7 knots / None                   | <b>Turbulence Type Forecast/Actual:</b>     | /                |
| <b>Wind Direction:</b>                  | 180°                             | <b>Turbulence Severity Forecast/Actual:</b> | /                |
| <b>Altimeter Setting:</b>               | 30.02 inches Hg                  | <b>Temperature/Dew Point:</b>               | 33°C / 22°C      |
| <b>Precipitation and Obscuration:</b>   | No Obscuration; No Precipitation |   |                  |
| <b>Departure Point:</b>                 | Blossom, TX                      | <b>Type of Flight Plan Filed:</b>           | None             |
| <b>Destination:</b>                     | Blossom, TX                      | <b>Type of Clearance:</b>                   | None             |
| <b>Departure Time:</b>                  |                                  | <b>Type of Airspace:</b>                    | Class E          |

## Wreckage and Impact Information

|                            |           |                             |                             |
|----------------------------|-----------|-----------------------------|-----------------------------|
| <b>Crew Injuries:</b>      | 1 Serious | <b>Aircraft Damage:</b>     | Substantial                 |
| <b>Passenger Injuries:</b> | 1 Serious | <b>Aircraft Fire:</b>       | None                        |
| <b>Ground Injuries:</b>    | N/A       | <b>Aircraft Explosion:</b>  | None                        |
| <b>Total Injuries:</b>     | 2 Serious | <b>Latitude, Longitude:</b> | 33.632825, -95.380461 (est) |

## Administrative Information

|  |   |
|--|---|
| <b>Investigator In Charge (IIC):</b>     | Lindberg, Joshua  |
| <b>Additional Participating Persons:</b> | Gary Watson; Federal Aviation Administration; Irving, TX  |
| <b>Original Publish Date:</b>            | January 19, 2023  |
| <b>Last Revision Date:</b>               |   |
| <b>Investigation Class:</b>              | <a href="#">Class 3</a>   |
| <b>Note:</b>                             | The NTSB did not travel to the scene of this accident.  |
| <b>Investigation Docket:</b>             | <a href="https://data.nts.gov/Docket?ProjectID=103499">https://data.nts.gov/Docket?ProjectID=103499</a> |

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](#).