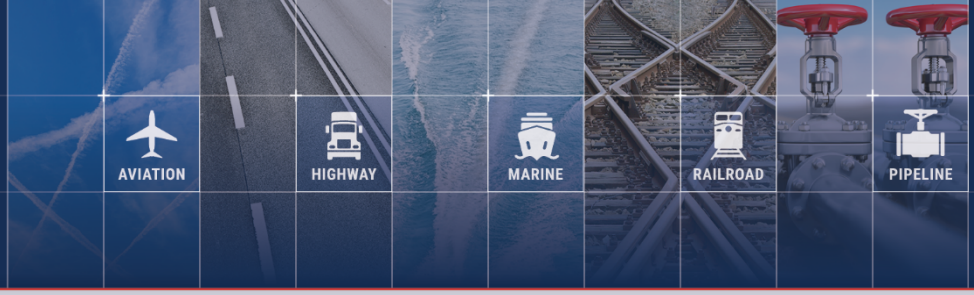

Aviation Investigation Final Report

Location:	Blossom, Texas	**Accident Number:**	CEN21LA326
Date & Time:	July 17, 2021, 16:10 Local	**Registration:**	N9667Z
Aircraft:	GARY JAMES LAIL ZENITH CH 750 CRUZER	**Aircraft Damage:**	Substantial
Defining Event:	Sys/Comp malf/fail (non-power)	**Injuries:**	2 Serious
Flight Conducted Under:	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

Aircraft	Rudder control system - Incorrect service/maintenance
Aircraft	Rudder control system - Failure
Personnel issues	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

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

Aircraft and Owner/Operator Information

Aircraft Make:	GARY JAMES LAIL	**Registration:**	N9667Z
Model/Series:	ZENITH CH 750 CRUZER	**Aircraft Category:**	Airplane
Year of Manufacture:	2018	**Amateur Built:**	Yes
Airworthiness Certificate:	Experimental (Special)	**Serial Number:**	C75-10349
Landing Gear Type:	Tricycle	**Seats:**	2
Date/Type of Last Inspection:	December 1, 2020 Annual	**Certified Max Gross Wt.:**	1320 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	101 Hrs at time of accident	**Engine Manufacturer:**	UL Power
ELT:	Installed	**Engine Model/Series:**	350i
Registered Owner:	On file	**Rated Power:**	118 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KPRX,547 ft msl	**Distance from Accident Site:**	4 Nautical Miles
Observation Time:	16:56 Local	**Direction from Accident Site:**	253°
Lowest Cloud Condition:	Few / 5000 ft AGL	**Visibility**	10 miles
Lowest Ceiling:		**Visibility (RVR):**	
Wind Speed/Gusts:	7 knots / None	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	180°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.02 inches Hg	**Temperature/Dew Point:**	33°C / 22°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Blossom, TX	**Type of Flight Plan Filed:**	None
Destination:	Blossom, TX	**Type of Clearance:**	None
Departure Time:		**Type of Airspace:**	Class E

Wreckage and Impact Information

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

Administrative Information

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