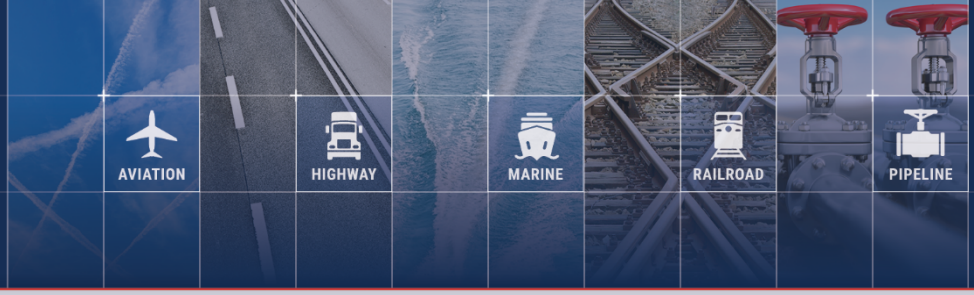

Aviation Investigation Final Report

Location:	Gardner, Kansas	**Accident Number:**	CEN16LA230
Date & Time:	June 17, 2016, 20:40 Local	**Registration:**	N124TG
Aircraft:	GLAESER NIEUPORT 11	**Aircraft Damage:**	Substantial
Defining Event:	Flight control sys malf/fail	**Injuries:**	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The private pilot stated that a preflight inspection of his experimental, amateur-built airplane revealed no discrepancies. After takeoff, the pilot completed two circuits around the airport traffic pattern with "no problems." During the upwind leg of the third circuit, he "noticed some vibration" and saw that the horizontal stabilizer was shaking/vibrating. The pilot began an approach for a precautionary landing, but during the base-to-final turn of the approach, the airplane experienced an aerodynamic stall.

The pilot stated that he did not lose elevator control authority during the last legs of the flight but that he was "distracted" by a fear that parts may be separating from the airplane. The airplane, which was built from plans based upon a 100-year old design, was not equipped with a stall warning system. The pilot further reported that the flight control vibration was likely the result of the control cable that linked the two elevators in a "Y" configuration. He stated that the single control cable was not supported for "a number of feet" through guides/fairleads, which can make the elevators "flutter."

Probable Cause and Findings

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

The pilot's diverted attention during the approach for the precautionary landing, which resulted in low airspeed, an exceedance of the airplane's critical angle of attack, and a subsequent aerodynamic stall. Contributing to the accident was the control system vibration and the airplane's lack of a stall warning system.

Findings

Personnel issues	Attention - Pilot
Aircraft	Angle of attack - Capability exceeded
Aircraft	Airspeed - Not attained/maintained
Aircraft	Elevator control system - Malfunction
Aircraft	Elevator control system - Design
Aircraft	Stall warning system - Not installed/available

Factual Information

History of Flight

Approach-VFR pattern crosswind	Flight control sys malf/fail (Defining event)
Approach-VFR pattern base	Loss of control in flight
Approach-VFR pattern base	Aerodynamic stall/spin
Uncontrolled descent	Collision with terr/obj (non-CFIT)

On June 17, 2016, at 2040 central daylight time, an experimental amateur-built Nieuport 11, N124TG, experienced a hard landing and an impact with terrain during a precautionary landing at Gardner Municipal Airport (K34), Gardner City, Kansas. The pilot performed the precautionary landing after he felt a vibration from the horizontal stabilizer while in the airport traffic pattern. The airplane sustained substantial damage. The pilot was uninjured. The airplane was registered to and operated by the pilot under 14 Code of Federal Regulations Part 91 as a personal flight that was not operating on a flight plan. Visual meteorological conditions prevailed at the time of the accident. The local flight originated from K34 at 2015.

On June 16, 2016, the pilot trailered the airplane to K34 for an upcoming weekend event. On the day of the accident, the airplane was untrailered and reassembled mid-day. The pilot then preflighted the airplane and taxied it to a parking area at the airport for an evening flight.

The pilot stated that before takeoff he performed an engine run-up and checked the flight controls for a takeoff using runway 17. After takeoff, the pilot flew the airplane in a left-hand airport traffic pattern and completed two circuits over the airport with "no problems." He said that during the upwind leg, parallel to runway 17, he "noticed some vibration," and saw the horizontal stabilizer shaking/vibrating. He varied the engine throttle setting while the airplane was near the departure end of runway 17 to cease the vibration, but the vibration continued. The pilot then heard, but did not see, an inbound aircraft that made a radio transmission referencing runway 26. Due to the inbound aircraft, the pilot thought that it was "unsafe to land" on runway 26, so he flew a left base to runway 17 for landing. As the airplane neared the left side of runway 17, the pilot initiated a "shallow" left turn for a "modified" final over runway 17, and the airplane "quickly began to sink." The said that the airplane experienced an "aerodynamic stall." The pilot added full engine power, which induced a yaw and a roll. The airplane descended and impacted the ground coming to rest short and on the left side of runway 17.

The pilot stated that he did not lose elevator control authority during the flight and his attention to flying the airplane was "distracted" by a fear that parts/empennage may be separating from the airplane, which led to his stalling the airplane. He said that the airplane model was "super draggy" and "super light" and without engine power, the airplane slows down rapidly.

The pilot stated that the airplane was built from plans that were based upon a 100-year old airplane. The plans depicted and the airplane was manufactured without the left and right elevators connected to each

other. A single control cable linked the two elevators via a Y-connection. The single control cable was not supported for "a number of feet" through guides/fairleads, which can make the elevators "flutter." The pilot said that following the accident several other airplane owners with the same model of airplane have modified the elevator control system by either installing a bellcrank in the elevator control system or by connecting the left and right elevators together.

The pilot said that neither the plans nor any subsequent modification to those plans in the building of the accident airplane resulted in the installation of a stall warning system in the airplane.

Pilot Information

Certificate:	Private	**Age:**	47,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Single
Other Aircraft Rating(s):	None	**Restraint Used:**	3-point
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 3 Without waivers/limitations	**Last FAA Medical Exam:**	March 30, 2016
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	June 17, 2015
Flight Time:	340 hours (Total, all aircraft), 8 hours (Total, this make and model), 315 hours (Pilot In Command, all aircraft), 10 hours (Last 90 days, all aircraft), 1 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	GLAESER	**Registration:**	N124TG
Model/Series:	NIEUPORT 11	**Aircraft Category:**	Airplane
Year of Manufacture:	1985	**Amateur Built:**	Yes
Airworthiness Certificate:	Experimental (Special)	**Serial Number:**	63
Landing Gear Type:	Tailwheel	**Seats:**	1
Date/Type of Last Inspection:	May 14, 2016 Condition	**Certified Max Gross Wt.:**	720 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	579.2 Hrs as of last inspection	**Engine Manufacturer:**	Volkswagon
ELT:	Not installed	**Engine Model/Series:**	
Registered Owner:	Pilot	**Rated Power:**	40 Horsepower
Operator:	Pilot	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	IXD,1087 ft msl	**Distance from Accident Site:**	3 Nautical Miles
Observation Time:		**Direction from Accident Site:**	90°
Lowest Cloud Condition:		**Visibility**	
Lowest Ceiling:		**Visibility (RVR):**	
Wind Speed/Gusts:	/	**Turbulence Type Forecast/Actual:**	/
Wind Direction:		**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:		**Temperature/Dew Point:**	
Precipitation and Obscuration:			
Departure Point:	Gardner, KS (K34)	**Type of Flight Plan Filed:**	None
Destination:	Gardner, KS (K34)	**Type of Clearance:**	None
Departure Time:	20:15 Local	**Type of Airspace:**	Class E

Airport Information

Airport:	Gardner Municipal Airport K34	**Runway Surface Type:**	Grass/turf
Airport Elevation:	1042 ft msl	**Runway Surface Condition:**	Vegetation
Runway Used:	17	**IFR Approach:**	None
Runway Length/Width:	3237 ft / 90 ft	**VFR Approach/Landing:**	Full stop;Precautionary landing;Traffic pattern

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 None	**Latitude, Longitude:**	38.806667,-94.956665(est)

Administrative Information

Investigator In Charge (IIC):	Gallo, Mitchell
Additional Participating Persons:	David Wood; Federal Aviation Administration; MKC FSDO; Kansas City, MO
Original Publish Date:	March 19, 2018
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=93436