



Aviation Investigation Final Report

Location:	Arthur, Nebraska	Accident Number:	CEN18FA242
Date & Time:	June 29, 2018, 12:45 Local	Registration:	N9026L
Aircraft:	Champion 7GCAA	Aircraft Damage:	Substantial
Defining Event:	Loss of control in flight	Injuries:	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The commercial pilot, who was experienced in aerobatics, coordinated with a friend to perform a flyover of a cattle branding event. Before departing on the flight, the pilot informed his father and that he was feeling very ill and nauseated during the previous flight that day due to in-flight turbulence and informed his friend at the branding event that he may not be able to perform the flyover. The pilot subsequently flew to the cattle branding event and commenced aerobatic maneuvers, which included a loop and rolling maneuver followed by a climb in a vertical pitch attitude. The airplane subsequently rolled left and entered a left-turning spin, which continued to ground contact.

Examination of the airframe and engine revealed no evidence of mechanical malfunctions or failures that would have precluded normal operation, and autopsy and toxicology testing of the pilot identified no evidence of physiological impairment or incapacitation. Although the pilot had reported some symptoms before departing on the flight, the nature of his illness was not diagnosed, and no evidence of illness was identified on autopsy. It is possible that the pilot's undefined symptoms or illness may have contributed to the accident; however, without further evidence, it could not be determined whether or to what extent his symptoms may have affected his ability to recover from the spin maneuver.

Probable Cause and Findings

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

The pilot's failure to recover from a spin for reasons that could not be determined based on the available information.

Findings

Personnel issues	Aircraft control - Pilot
Aircraft	(general) - Capability exceeded
Personnel issues	(general) - Pilot
Not determined	(general) - Unknown/Not determined

Factual Information

History of Flight

Maneuvering-low-alt flying	Loss of control in flight (Defining event)
Uncontrolled descent	Collision with terr/obj (non-CFIT)

On June 29, 2018, about 1245 mountain daylight time, a Champion 7GCAA airplane, N9026L, impacted terrain while maneuvering near Arthur, Nebraska. The commercial pilot was fatally injured, and the airplane was substantially damaged. The airplane was registered to and was being operated by Last Pass Aviation as a Title 14 *Code of Federal Regulations* Part 91 personal flight. Day visual meteorological conditions existed in the area of the accident, which departed without a flight plan from Thomas County Airport (TIF), Thedford, Nebraska, about 1115.

The pilot was performing aerobatic maneuvers at a cattle branding event. A witness reported that, following a loop and rolling maneuver, the airplane began to climb in a vertical attitude. The airplane subsequently rolled left and made a series of left-turning spins as it descended to ground contact.

Pilot Information

Certificate:	Commercial	Age:	28,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Front
Other Aircraft Rating(s):	None	Restraint Used:	4-point
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	Toxicology Performed:	Yes
Medical Certification:	Class 2 With waivers/limitations	Last FAA Medical Exam:	June 26, 2018
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	February 15, 2018
Flight Time:	3200 hours (Total, all aircraft), 1100 hours (Total, this make and model)		

The pilot, age 28, held a commercial pilot certificate with airplane single- and multi-engine land and instrument ratings, and a flight instructor certificate with airplane single- and multi-engine and instrument ratings. On June 26, 2018, the pilot was issued a Federal Aviation Administration (FAA) second-class medical certificate with a restriction for corrective lenses. The pilot had recently started training for agricultural application operations and had flown about 30 hours in an Air Tractor AT502 airplane.

According to an insurance application from March 2018, the pilot reported that he had 1,100 hours of aerobatic flight experience in the accident airplane make and model. Most of this experience occurred while instructing spin, aerobatic, and upset recovery training at a flight school in California. The pilot's

logbook was not available for review.

Before departing on the accident flight, the pilot informed his father that he had been feeling very ill and nauseated during the previous flight that day due to significant in-flight turbulence. Because of this issue, the pilot informed a friend at the cattle branding event that he might not be able to perform the flyover.

Aircraft and Owner/Operator Information

Aircraft Make:	Champion	Registration:	N9026L
Model/Series:	7GCAA	Aircraft Category:	Airplane
Year of Manufacture:	1970	Amateur Built:	
Airworthiness Certificate:	Aerobatic; Normal	Serial Number:	215-70
Landing Gear Type:	Tailwheel	Seats:	2
Date/Type of Last Inspection:	October 2, 2017 Annual	Certified Max Gross Wt.:	1650 lbs
Time Since Last Inspection:	26 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	6517 Hrs as of last inspection	Engine Manufacturer:	Lycoming
ELT:	C91 installed, not activated	Engine Model/Series:	O-320-A2B
Registered Owner:		Rated Power:	150 Horsepower
Operator:	On file	Operating Certificate(s) Held:	None

The two-seat, high-wing, fixed-gear airplane was manufactured in 1970 and was equipped with a Lycoming O-320-A2B engine and a McCauley two-blade, all-metal, fixed pitch propeller. On October 2, 2017, the airplane underwent an annual inspection at an airframe total time of 6,507 hours and 2,194 hours since engine overhaul. The accident occurred about 26 hours after this inspection.

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KOGA, 3250 ft msl	Distance from Accident Site:	28 Nautical Miles
Observation Time:	12:35 Local	Direction from Accident Site:	196°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	10 knots /	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	330°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	29.77 inches Hg	Temperature/Dew Point:	30°C / 20°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Thedford, NE (TIF)	Type of Flight Plan Filed:	None
Destination:	Alliance, NE (AIA)	Type of Clearance:	None
Departure Time:	11:15 Local	Type of Airspace:	Class G

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Fatal	Latitude, Longitude:	41.562221,-101.599723

The airplane impacted a grassy meadow with no evidence of postimpact ground fire. Both wings were upright and exhibited significant crushing and deformation. The empennage was twisted to the left, with the outer edge of the left elevator resting near the left aileron. The engine was partially buried at an approximate 30° angle in relation to the surrounding terrain. The left gear strut was significantly deformed.

The propeller remained attached to the engine. One of the propeller blades, which was buried into the ground, was nearly straight with minimal damage or polishing. The other propeller blade, which was out of the ground, was twisted aft about 180° and displayed polishing and chordwise gouges.

The flight control surfaces remained attached to their respective airframe attach points and the horizontal and vertical stabilizers were not damaged. Flight control cable continuity was confirmed to all flight control surfaces with no anomalies noted.

Examination of the engine revealed normal power train continuity. Thumb compression and suction were observed on all four cylinders and a borescope inspection revealed no anomalies with the pistons, cylinder barrels, cylinder heads, valves, or valve seats. The spark plugs exhibited a dark gray color and

the electrodes exhibited normal wear patterns.

The magnetos sparked normally at all leads during rotation. The carburetor bowl was impact damaged with no fuel present. The fuel gascolator screen, carburetor screen, and oil pickup were clear of contaminants. The engine exhaust system was impact damaged; the heat muff was intact with no cracks or exhaust erosion.

Examination of the airframe and engine revealed no evidence of mechanical malfunctions or failures that would have precluded normal operation.

Medical and Pathological Information

The Regional West Medical Center Pathology Department, Scottsbluff, Nebraska, performed an autopsy on the pilot. The cause of death was blunt force injuries. Toxicology testing performed at the FAA Forensic Sciences Laboratory was negative for drugs and alcohol.

Administrative Information

Investigator In Charge (IIC):	Folkerts, Michael
Additional Participating Persons:	Marlyn Beisner; Flight Standards District Office; Lincoln, NE Mark Gaffney; Flight Standards District Office; Lincoln, NE Troy Helgeson; Lycoming Engines; Williamsport, PA
Original Publish Date:	July 8, 2019
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=97644

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).