



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	Kalkaska, MI	<b>Accident Number:</b>	CEN18LA150
<b>Date &amp; Time:</b>	04/27/2018, 1416 EDT	<b>Registration:</b>	N818TW
<b>Aircraft:</b>	WOLFE Kitfox V	<b>Aircraft Damage:</b>	Destroyed
<b>Defining Event:</b>	Aerodynamic stall/spin	<b>Injuries:</b>	2 Fatal
<b>Flight Conducted Under:</b>	Part 91: General Aviation - Personal		

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## Analysis

The personal flight in an experimental amateur-built airplane was underway when witnesses observed the airplane in a spin and without engine power. The airplane impacted the ground about 4 miles south of the departure airport. The airplane wreckage exhibited features consistent with a counterclockwise spin. Although witnesses reported they did not hear engine noise, postaccident examination of the airplane confirmed flight control continuity and found no mechanical anomalies with the engine that would have precluded normal operation.

## 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 airplane control that resulted in a stall/spin following climb from the departure airport.

## Findings

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<b>Aircraft</b>	Performance/control parameters - Not attained/maintained (Cause) Engine (reciprocating) - Not specified
<b>Personnel issues</b>	Aircraft control - Pilot (Cause)

## Factual Information

### History of Flight

<b>Enroute</b>	Loss of engine power (total) Loss of control in flight Aerodynamic stall/spin (Defining event)
<b>Uncontrolled descent</b>	Collision with terr/obj (non-CFIT)

On April 27, 2018, at 1416 eastern daylight time, an experimental amateur-built Wolfe Kitfox V, N818TW, impacted terrain about 4 miles south of Kalkaska City Airport, Kalkaska, Michigan. The airplane was destroyed by impact forces. The private pilot and passenger were fatally injured. The airplane was registered to and operated by the pilot under Title 14 *Code of Federal Regulations* Part 91 as a personal flight. Visual meteorological conditions prevailed at the time of the accident, and no flight plan was filed. The flight was destined for Mackinac Island Airport, Mackinac Island, Michigan.

According to a Federal Aviation Administration (FAA) inspector, witnesses reported seeing the airplane in a counterclockwise upright spin beginning about 1,000 ft above ground level. The airplane then impacted the ground in a flat attitude. Ground scarring indicated counterclockwise rotation of the airplane. According to the Kalkaska Sheriff's Office Incident Report, fuel was leaking from both airplane wings. The report included accounts from witnesses who stated that the airplane "was not under power" and was "spinning belly down."

### Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	71, 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>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	Yes
<b>Medical Certification:</b>	Class 3 With Waivers/Limitations	<b>Last FAA Medical Exam:</b>	08/24/2016
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	08/21/2017
<b>Flight Time:</b>	(Estimated) 659 hours (Total, all aircraft)		

The private pilot held a private pilot certificate as well as repairman experimental aircraft builder and repairman light sport aircraft (inspection) certificates. The pilot held a third-class medical certificate dated August 24, 2016, with the restriction that the pilot must wear corrective lenses. At that time, he reported 659 hours of total flight experience, of which 23

hours were in the previous 6 months.

A pilot logbook entry stated the pilot's private pilot certificate was issued on October 8, 1995.

### Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	WOLFE	<b>Registration:</b>	N818TW
<b>Model/Series:</b>	Kitfox V	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>	2007	<b>Amateur Built:</b>	Yes
<b>Airworthiness Certificate:</b>	Experimental	<b>Serial Number:</b>	V9908-072
<b>Landing Gear Type:</b>	Tailwheel	<b>Seats:</b>	2
<b>Date/Type of Last Inspection:</b>	12/07/2017, Condition	<b>Certified Max Gross Wt.:</b>	1550 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	402.4 Hours as of last inspection	<b>Engine Manufacturer:</b>	Continental
<b>ELT:</b>		<b>Engine Model/Series:</b>	XIOF-240-B
<b>Registered Owner:</b>	Pilot	<b>Rated Power:</b>	125 hp
<b>Operator:</b>	Pilot	<b>Operating Certificate(s) Held:</b>	None

The pilot purchased the airplane kit in 1999 and subsequently built the airplane. An airworthiness certificate for the airplane was issued in 2007, and it was registered to the pilot.

The airplane was equipped with a Continental Motors IOF-240-B engine. A two-bladed wooden propeller was attached to the engine.

The airplane was not equipped with a stall warning system and was not required to be so equipped due to its classification as an experimental amateur-built airplane.

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	ACB, 623 ft msl	Distance from Accident Site:	15 Nautical Miles
Observation Time:	1415 EDT	Direction from Accident Site:	360°
Lowest Cloud Condition:	Clear	Visibility	10 Miles
Lowest Ceiling:	Overcast / 1400 ft agl	Visibility (RVR):	
Wind Speed/Gusts:	6 knots /	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	310°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	29.8 inches Hg	Temperature/Dew Point:	5°C / 1°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Kalkaska, MI (Y89)	Type of Flight Plan Filed:	None
Destination:	Mackinac, MI (MCD)	Type of Clearance:	None
Departure Time:	EDT	Type of Airspace:	

## Airport Information

Airport:	Kalkaska City Airport (Y89)	Runway Surface Type:	
Airport Elevation:	1030 ft	Runway Surface Condition:	
Runway Used:	N/A	IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	

## Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	1 Fatal	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 Fatal	Latitude, Longitude:	44.674444, -85.235833 (est)

Postaccident examination of the airplane confirmed flight control continuity from the control surfaces to the cockpit controls. A fuel sample taken from the left fuel tank did not exhibit contamination and was consistent with 100 low-lead fuel. The airplane fuel tanks had usable fuel. The magnetos and the fuel selector valve were in the ON position.

The engine was partially attached to the airframe. One propeller blade had broken off near the tip, and the other propeller blade had broken off near the blade root. The remaining propeller was attached to the crankshaft hub.

Postaccident examination of the engine revealed that the spark plugs exhibited features of normal operation. Borescope examination of the engine cylinders revealed no anomalies. The engine was rotated through by hand, and engine drive and valve train continuity was confirmed. During the engine rotation, air was expelled and drawn in through the spark plug holes. The fuel metering unit exhibited no anomalies that would have precluded operation.

A compact flash memory card was removed from the instrument panel flight display; however, no data were recovered.

## Medical And Pathological Information

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An autopsy of the pilot that was conducted by the Kalkaska County Medical Examiner, Kalkaska, Michigan, found that his cause of death was "multiple blunt force injuries."

Toxicology testing performed at the FAA's Forensic Sciences Laboratory identified tadalafil in the pilot's blood and liver specimens. Testing for cyanide was not performed, and no ethanol was detected in the pilot's vitreous specimens.

## Administrative Information

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<b>Investigator In Charge (IIC):</b>	Mitchell F Gallo	<b>Report Date:</b>	04/13/2020
<b>Additional Participating Persons:</b>	Michael Strickland; Federal Aviation Administration; Grand Rapids FSDO; Grand Rapids, MI Christopher Lang; Continental Motors; Mobile, AL		
<b>Publish Date:</b>	04/13/2020		
<b>Note:</b>	The NTSB did not travel to the scene of this accident.		
<b>Investigation Docket:</b>	<a href="http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=97123">http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=97123</a>		

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