



# Aviation Investigation Final Report

<b>Location:</b>	Three Rivers, Michigan	<b>Accident Number:</b>	WPR19TA009
<b>Date &amp; Time:</b>	October 9, 2018, 19:04 Local	<b>Registration:</b>	UNREG
<b>Aircraft:</b>	Kreling Supercat	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Aerodynamic stall/spin	<b>Injuries:</b>	1 Serious
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

## Analysis

The private pilot reported that he had just completed constructing the unregistered experimental, amateur-built airplane, and during takeoff for the airplane's first flight from the grass airstrip, he failed to maintain the proper pitch attitude and adequate airspeed, and the airplane experienced an aerodynamic stall. The airplane struck the ground nose down just beyond the end of the runway, which resulted in substantial damage to the forward fuselage.

The pilot reported no mechanical malfunctions or failures with the airplane 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 the proper pitch attitude and adequate airspeed during takeoff, which resulted in an aerodynamic stall.

## Findings

<b>Personnel issues</b>	Aircraft control - Pilot
<b>Aircraft</b>	Airspeed - Not attained/maintained
<b>Aircraft</b>	Pitch control - Not attained/maintained

## Factual Information

### History of Flight

<b>Takeoff</b>	Aerodynamic stall/spin (Defining event)
<b>Uncontrolled descent</b>	Collision with terr/obj (non-CFIT)

On October 9, 2018, at 1904 eastern daylight time, an unregistered experimental amateur-built Supercat airplane collided with terrain after takeoff from Three Rivers Municipal Dr Haines Airport, Three Rivers, Michigan. The private pilot sustained serious injuries, and the airplane sustained substantial damage to the forward fuselage. The airplane was operated by the pilot/builder under the provisions of Title 14 *Code of Federal Regulations* Part 91 as a local personal flight. Visual meteorological conditions prevailed, and no flight plan had been filed. The flight was originating at the time of the accident.

The pilot reported that he recently completed construction of the airplane, and although he had previously performed multiple high-speed taxi tests and "crow hops", this was to be the first flight. He stated that the takeoff runway was a 1,000-ft-long grass strip, adjacent and parallel to Runway 9. After warming up the engine, he taxied the airplane into position, and initiated the takeoff roll. The airplane lifted off after traveling about 1/4 of the runway length, and he stated that during the initial climb he failed to maintain the correct pitch attitude and adequate airspeed, and the airplane experienced an aerodynamic stall. The airplane struck the ground nose-down just beyond the end of the runway.

The airplane was equipped with a Rotax 447 series two-stroke engine. The pilot indicated that he planned to register the airplane with the Federal Aviation Administration once he had established that it could be flown. He reported that there were no preimpact mechanical malfunctions or failures with the airframe or engine that would have precluded normal operation.

### Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	63,Male
<b>Airplane Rating(s):</b>	Single-engine land	<b>Seat Occupied:</b>	Single
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	4-point
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Sport pilot None	<b>Last FAA Medical Exam:</b>	
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	158.1 hours (Total, all aircraft), 0.1 hours (Total, this make and model), 120.4 hours (Pilot In Command, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Kreling	<b>Registration:</b>	UNREG
<b>Model/Series:</b>	Supercat	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>	2018	<b>Amateur Built:</b>	Yes
<b>Airworthiness Certificate:</b>	None	<b>Serial Number:</b>	None
<b>Landing Gear Type:</b>	Tailwheel	<b>Seats:</b>	1
<b>Date/Type of Last Inspection:</b>	Unknown	<b>Certified Max Gross Wt.:</b>	650 lbs
<b>Time Since Last Inspection:</b>	0 Hrs	<b>Engines:</b>	Reciprocating
<b>Airframe Total Time:</b>	0 Hrs at time of accident	<b>Engine Manufacturer:</b>	Rotax
<b>ELT:</b>	Not installed	<b>Engine Model/Series:</b>	447
<b>Registered Owner:</b>		<b>Rated Power:</b>	38 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>	KHAI, 824 ft msl	<b>Distance from Accident Site:</b>	0 Nautical Miles
<b>Observation Time:</b>	23:17 Local	<b>Direction from Accident Site:</b>	258°
<b>Lowest Cloud Condition:</b>	Scattered / 8500 ft AGL	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	4 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	160°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	29.96 inches Hg	<b>Temperature/Dew Point:</b>	26°C / 18°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Three Rivers, MI (HAI )	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	Three Rivers, MI (HAI )	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	19:04 Local	<b>Type of Airspace:</b>	Class E

## Airport Information

<b>Airport:</b>	THREE RIVERS MUNI DR HAINES HAI	<b>Runway Surface Type:</b>	Grass/turf
<b>Airport Elevation:</b>	822 ft msl	<b>Runway Surface Condition:</b>	Dry
<b>Runway Used:</b>	09L	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>	1000 ft / 1000 ft	<b>VFR Approach/Landing:</b>	None

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 Serious	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>		<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	1 Serious	<b>Latitude, Longitude:</b>	41.961112,-85.586112(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Simpson, Elliott
<b>Additional Participating Persons:</b>	Michael W Matthews; Federal Aviation Administration FSDO; Grand Rapids, MI
<b>Original Publish Date:</b>	December 16, 2019
<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=98511">https://data.nts.gov/Docket?ProjectID=98511</a>

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