



# Aviation Investigation Final Report

<b>Location:</b>	Princeton, Minnesota	<b>Accident Number:</b>	CEN18LA295
<b>Date &amp; Time:</b>	July 24, 2018, 14:56 Local	<b>Registration:</b>	N20342
<b>Aircraft:</b>	Vans RV7A	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Loss of control on ground	<b>Injuries:</b>	2 Serious
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

## Analysis

The private pilot was conducting a personal cross-country flight and decided to stop at an intermediate airport to refuel the airplane. When the airplane touched down, it swerved left, exited the side of the runway, struck a runway edge light, and then nosed over in soft terrain.

Examination of the runway revealed that a long black line, which extended from the centerline to where the runway edge light was struck, was imprinted in the pavement. It is likely that the imprint was created by the chine that was pronounced on both sides of the tire. These ground signatures indicate that the nosewheel tire was likely flat upon touchdown, which led to the pilot's inability to maintain directional control upon landing.

## Probable Cause and Findings

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

A flat nosewheel tire, which resulted in the pilot's inability to maintain directional control on landing.

## Findings

<b>Aircraft</b>	Tire casing - Failure
<b>Aircraft</b>	Directional control - Attain/maintain not possible
<b>Environmental issues</b>	Wet/muddy terrain - Effect on equipment
<b>Environmental issues</b>	Runway/taxi/approach light - Contributed to outcome

## Factual Information

### History of Flight

Landing	Loss of control on ground (Defining event)
Landing	Nose over/nose down
Landing	Runway excursion
Landing	Collision with terr/obj (non-CFIT)

On July 24, 2018, about 1456 central daylight time (cdt), a Schmidt Vans RV7A, N20342, nosed over during landing at Princeton Municipal Airport (PNM), Princeton, Minnesota. The pilot and passenger were seriously injured, and the airplane was substantially damaged. The airplane was registered to and operated by the pilot under the provisions of Title 14 *Code of Federal Regulations* Part 91 as a personal flight. Visual meteorological conditions prevailed, and no flight plan had been filed. The flight originated from Mercer County Regional Airport (HZE), Hazen, North Dakota, and was destined for Wittman Regional Airport (OSH), Oshkosh Wisconsin, but diverted to PNM.

The pilot and his son departed Schmidt Ranch Airport (1WN0), Northport, Washington, at 0515 Pacific daylight time, and flew to Hazen (HZE), North Dakota, and refueled. They departed HZE at 1315 cdt en route to OSH. They decided to stop in PNM for fuel. The winds were gusty. The approach to PNM was normal. When they touched down, the airplane swerved to the left, departed the runway onto soft soil, and nosed over. In his accident report, the pilot said the nose tire blew out on landing and caused the airplane to exit the runway.

In an e-mail from the FAA inspector who examined the airplane, he felt that, based on ground signatures and the fact the airplane did not have a steerable nose wheel, the nose tire was flat on touchdown. He wrote: "There was a distinct long black line imprinted in the pavement from the centerline where he landed right over to the impacted runway light. The line was created by the chine that was pronounced on each side of this brand of tire. It was a gentle curve to the left off the runway with no swerving. The tire got a set in it (the sidewalls were stiffer when the flat tire was depressed with my fingers), and gentle differential braking did not affect it at all. The tire would not even roll well in the grass alongside the runway."

## Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	77,Male
<b>Airplane Rating(s):</b>	Single-engine land; Single-engine sea	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	4-point
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 3 With waivers/limitations	<b>Last FAA Medical Exam:</b>	April 26, 2018
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	5200 hours (Total, all aircraft), 886 hours (Total, this make and model), 5200 hours (Pilot In Command, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Vans	<b>Registration:</b>	N20342
<b>Model/Series:</b>	RV7A	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>	2003	<b>Amateur Built:</b>	Yes
<b>Airworthiness Certificate:</b>	Experimental (Special)	<b>Serial Number:</b>	70204
<b>Landing Gear Type:</b>	Tricycle	<b>Seats:</b>	2
<b>Date/Type of Last Inspection:</b>	May 7, 2018 Annual	<b>Certified Max Gross Wt.:</b>	1800 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	872 Hrs	<b>Engine Manufacturer:</b>	Lycoming
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	O-360-A1A
<b>Registered Owner:</b>		<b>Rated Power:</b>	180 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>	PNM,980 ft msl	<b>Distance from Accident Site:</b>	0 Nautical Miles
<b>Observation Time:</b>	14:56 Local	<b>Direction from Accident Site:</b>	
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	9 knots / 14 knots	<b>Turbulence Type Forecast/Actual:</b>	None / None
<b>Wind Direction:</b>	260°	<b>Turbulence Severity Forecast/Actual:</b>	N/A / N/A
<b>Altimeter Setting:</b>	30.06 inches Hg	<b>Temperature/Dew Point:</b>	28°C / 14°C
<b>Precipitation and Obscuration:</b>			
<b>Departure Point:</b>	Hazen, ND (HZE )	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	Princeton, MN (PNM )	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	13:15 Local	<b>Type of Airspace:</b>	Class G

## Airport Information

<b>Airport:</b>	Princeton Municipal PNM	<b>Runway Surface Type:</b>	Asphalt
<b>Airport Elevation:</b>	980 ft msl	<b>Runway Surface Condition:</b>	Dry
<b>Runway Used:</b>	33	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>	3900 ft / 75 ft	<b>VFR Approach/Landing:</b>	Full stop;Traffic pattern

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 Serious	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>	1 Serious	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	2 Serious	<b>Latitude, Longitude:</b>	45.559722,-93.608329(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Scott, Arnold
<b>Additional Participating Persons:</b>	Cal Peterson; FAA Flight Standards District Office; Minneapolis, MN
<b>Original Publish Date:</b>	April 30, 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=97885">https://data.nts.gov/Docket?ProjectID=97885</a>

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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](#).