



# Aviation Investigation Final Report

<b>Location:</b>	Madison, South Dakota	<b>Accident Number:</b>	CHI07CA216
<b>Date &amp; Time:</b>	July 14, 2007, 19:00 Local	<b>Registration:</b>	N3306D
<b>Aircraft:</b>	Cessna 180	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	4 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

## Analysis

The left main landing gear collapsed and the airplane came to rest on its left side during a landing roll. The pilot reported that after touchdown the tail wheel began to shimmy and the airplane began to shake. He reported that he "rode the rudder from side to side" in order to try and stop the shimmy. He reported that the airplane veered to the right near the end of the landing roll. The pilot reported he used the left rudder and brake to stop the turn, but the airplane kept veering. The airplane traveled into the grass where the left main landing gear then collapsed and the airplane came to rest on its left side. The pilot reported the tail springs came unhooked as a result of the tail wheel shimmy.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The tailwheel vibrations during the landing roll that resulted in the tailwheel spring disconnect. Directional control was not possible and the grassy terrain were factors.

## Findings

Occurrence #1: LOSS OF CONTROL - ON GROUND/WATER  
Phase of Operation: LANDING - ROLL

### Findings

1. (C) LANDING GEAR, TAILWHEEL - VIBRATION
2. (F) DIRECTIONAL CONTROL - NOT POSSIBLE - PILOT IN COMMAND

3. (C) MISCELLANEOUS,BOLT/NUT/FASTENER/CLAMP/SPRING - DISCONNECTED

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Occurrence #2: ON GROUND/WATER ENCOUNTER WITH TERRAIN/WATER  
Phase of Operation: LANDING - ROLL

Findings

4. (F) TERRAIN CONDITION - GRASS

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Occurrence #3: MAIN GEAR COLLAPSED  
Phase of Operation: LANDING - ROLL

## Factual Information

The left main landing gear collapsed and the airplane came to rest on its left side during a landing roll. The pilot reported that after touchdown the rail wheel began to shimmy and the airplane began to shake. He reported that he "rode the rudder from side to side" in order to try and stop the shimmy. He reported that the airplane veered to the right near the end of the landing roll. The pilot reported he used the left rudder and brake to stop the turn, but the airplane kept veering. The airplane traveled into the grass where the left main landing gear then collapsed and the airplane came to rest on its left side. The pilot reported the tail springs came unhooked as a result of the tail wheel shimmy.

### Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	48, Male
<b>Airplane Rating(s):</b>	Single-engine land	<b>Seat Occupied:</b>	
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	
<b>Instructor Rating(s):</b>		<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 3	<b>Last FAA Medical Exam:</b>	June 1, 2006
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	1970 hours (Total, all aircraft), 40 hours (Total, this make and model), 1920 hours (Pilot In Command, all aircraft), 52 hours (Last 90 days, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Cessna	<b>Registration:</b>	N3306D
<b>Model/Series:</b>	180	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	32104
<b>Landing Gear Type:</b>	Tailwheel	<b>Seats:</b>	
<b>Date/Type of Last Inspection:</b>		<b>Certified Max Gross Wt.:</b>	
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>		<b>Engine Manufacturer:</b>	Continental
<b>ELT:</b>		<b>Engine Model/Series:</b>	O-470-R
<b>Registered Owner:</b>	Charles J. Keppen	<b>Rated Power:</b>	
<b>Operator:</b>		<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>		<b>Distance from Accident Site:</b>	
<b>Observation Time:</b>		<b>Direction from Accident Site:</b>	
<b>Lowest Cloud Condition:</b>		<b>Visibility</b>	40 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	12 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	30°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>		<b>Temperature/Dew Point:</b>	27°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Larchwood, IA (7IA2)	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	Madison, SD (MDS )	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>		<b>Type of Airspace:</b>	

## Airport Information

<b>Airport:</b>	<b>Runway Surface Type:</b>
<b>Airport Elevation:</b>	<b>Runway Surface Condition:</b>
<b>Runway Used:</b>	<b>IFR Approach:</b>
<b>Runway Length/Width:</b>	<b>VFR Approach/Landing:</b>

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>	3 None	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	
<b>Total Injuries:</b>	4 None	<b>Latitude, Longitude:</b>	44.016109,-97.086112

## Administrative Information

**Investigator In Charge (IIC):** Sullivan, Pamela

**Additional Participating Persons:**

**Original Publish Date:** August 30, 2007

**Last Revision Date:**

**Investigation Class:** [Class](#)

**Note:** This accident report documents the factual circumstances of this accident as described to the NTSB.

**Investigation Docket:** <https://data.nts.gov/Docket?ProjectID=66332>

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