



# Aviation Investigation Final Report

<b>Location:</b>	Bend, Oregon	<b>Accident Number:</b>	GAA18CA459
<b>Date &amp; Time:</b>	July 31, 2018, 13:30 Local	<b>Registration:</b>	N116PM
<b>Aircraft:</b>	HERZOG AVIATION CCX-2000	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Loss of control on ground	<b>Injuries:</b>	1 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

## Analysis

The pilot of the tailwheel-equipped, experimental, amateur-built airplane reported that, during the landing roll at his home airport, the left main landing gear (MLG) wheel exited the asphalt runway and entered gravel that bordered the runway. The pilot applied right rudder to steer the airplane back onto the runway, but at the point where the left MLG tire contacted the asphalt runway, the left MLG collapsed. The left wing struck the ground, and the airplane came to rest on the runway.

The airplane sustained substantial damage to the left wing spar and aileron.

The pilot reported that the left MLG shock absorber shaft had sheared off at the lock nut attached to the rod end, which he believed resulted in the left MLG collapsing. However, photographs provided by Federal Aviation Administration air safety inspectors revealed that the left MLG failed inward and underneath the fuselage of the airplane. Additionally, the photographs revealed ground scars on the asphalt runway from the left wing that could be traced from the runway centerline, about 90° back to that of the runway heading. Further, photographs revealed that the airplane was equipped with tundra tires, which would have put a lot of stress on the landing gear. The evidence indicates that the left MLG collapsed when the pilot attempted to steer the airplane back onto the runway.

The METAR at the airport reported that the wind about the time of the accident was variable at 3 knots, gusting to 12 knots. The pilot landed the airplane on runway 16.

# 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 directional control during the landing roll, which resulted in a runway excursion and the subsequent collapse of the left main landing gear when he attempted to steer the airplane back onto the runway.

## Findings

Aircraft	Directional control - Not attained/maintained
Aircraft	Main landing gear - Failure
Personnel issues	Aircraft control - Pilot

## Factual Information

### History of Flight

Landing-landing roll	Loss of control on ground (Defining event)
Landing-landing roll	Attempted remediation/recovery

### Pilot Information

Certificate:	Private	Age:	75,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Front
Other Aircraft Rating(s):	Helicopter	Restraint Used:	4-point
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 With waivers/limitations	Last FAA Medical Exam:	July 16, 2018
Occupational Pilot:	No	Last Flight Review or Equivalent:	July 27, 2017
Flight Time:	(Estimated) 2044 hours (Total, all aircraft), 4 hours (Total, this make and model), 2044 hours (Pilot In Command, all aircraft), 35 hours (Last 90 days, all aircraft), 22 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

### Aircraft and Owner/Operator Information

Aircraft Make:	HERZOG AVIATION	Registration:	N116PM
Model/Series:	CCX-2000	Aircraft Category:	Airplane
Year of Manufacture:	2018	Amateur Built:	Yes
Airworthiness Certificate:	Experimental (Special)	Serial Number:	CCX-2000-0025
Landing Gear Type:	Tailwheel	Seats:	2
Date/Type of Last Inspection:	July 3, 2018	Certified Max Gross Wt.:	2000 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	44.6 Hrs	Engine Manufacturer:	Cub Crafter
ELT:	C126 installed, not activated	Engine Model/Series:	CC363i
Registered Owner:		Rated Power:	186 Horsepower
Operator:	On file	Operating Certificate(s) Held:	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>	KBDN,3462 ft msl	<b>Distance from Accident Site:</b>	0 Nautical Miles
<b>Observation Time:</b>	20:35 Local	<b>Direction from Accident Site:</b>	20°
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	9 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>		<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	30.04 inches Hg	<b>Temperature/Dew Point:</b>	33°C / 6°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Bend, OR (BDN )	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	Bend, OR (BDN )	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	12:21 Local	<b>Type of Airspace:</b>	Class G

## Airport Information

<b>Airport:</b>	Bend Muni BDN	<b>Runway Surface Type:</b>	Asphalt
<b>Airport Elevation:</b>	3459 ft msl	<b>Runway Surface Condition:</b>	Dry
<b>Runway Used:</b>	16	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>	5200 ft / 75 ft	<b>VFR Approach/Landing:</b>	Full stop;Traffic pattern

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 None	<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 None	<b>Latitude, Longitude:</b>	44.094444,-121.200279(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Hicks, Michael
<b>Additional Participating Persons:</b>	Kevin Marpet; FAA; Portland, OR
<b>Original Publish Date:</b>	June 5, 2019
<b>Note:</b>	This accident report documents the factual circumstances of this accident as described to the NTSB.
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=97959">https://data.nts.gov/Docket?ProjectID=97959</a>

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