



Aviation Investigation Final Report

Location:	Harrison, Ohio	Accident Number:	CEN20CA114
Date & Time:	March 4, 2020, 14:02 Local	Registration:	N878DZ
Aircraft:	Vans RV8	Aircraft Damage:	Substantial
Defining Event:	Loss of control on ground	Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot of the tailwheel-equipped airplane reported that he made a normal landing approach to the runway with a direct crosswind of 15 knots, gusting to 23 knots. The pilot was initially able to maintain directional control with normal flight control inputs after the airplane touched down on the main landing gear; however, when the tailwheel touched down, the tail began to weathervane, and the airplane veered right. The pilot was unable to regain directional control by applying full left rudder and left brake before the airplane departed the right side of the runway and struck a precision approach path indicator lights system. The left wing, left horizontal stabilizer, and left elevator sustained substantial damage. Postaccident examination and a functional test of the steerable tailwheel revealed that the spring-actuated key slide would stick in the retracted position within the tailwheel fork, which allowed the tailwheel to fully caster instead of being steerable within the normal limits intended for takeoff and landing. Additional examination revealed that the slot in the tailwheel fork that held the spring-actuated key slide was slightly deformed and that the key had several raised edges that caused the key to bind when fully retracted in the slot. It is likely that the tailwheel was able to fully caster during landing, which resulted in the pilot's inability to maintain directional control after the tailwheel touched down during the landing roll.

Probable Cause and Findings

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

The malfunction of the steerable tailwheel, which resulted in a loss of directional control during the landing roll and subsequent impact with the precision approach path indicator lights system.

Findings

Aircraft	Landing gear steering system - Malfunction
Aircraft	Directional control - Attain/maintain not possible
Environmental issues	Runway/taxi/approach light - Effect on operation

Factual Information

History of Flight

Landing-landing roll	Sys/Comp malf/fail (non-power)
Landing-landing roll	Loss of control on ground (Defining event)
Landing-landing roll	Attempted remediation/recovery
Landing-landing roll	Runway excursion
Landing-landing roll	Collision with terr/obj (non-CFIT)

Pilot Information

Certificate:	Airline transport; Flight instructor	Age:	51, Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	Seat Occupied:	Front
Other Aircraft Rating(s):	Glider	Restraint Used:	Unknown
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane single-engine; Instrument airplane	Toxicology Performed:	No
Medical Certification:	Class 1 Without waivers/limitations	Last FAA Medical Exam:	October 4, 2019
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	January 18, 2020
Flight Time:	(Estimated) 22000 hours (Total, all aircraft), 125 hours (Total, this make and model), 17000 hours (Pilot In Command, all aircraft), 270 hours (Last 90 days, all aircraft), 90 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Vans	Registration:	N878DZ
Model/Series:	RV8	Aircraft Category:	Airplane
Year of Manufacture:	2004	Amateur Built:	Yes
Airworthiness Certificate:	Experimental (Special)	Serial Number:	81885
Landing Gear Type:	Tailwheel	Seats:	2
Date/Type of Last Inspection:	February 11, 2020 Condition	Certified Max Gross Wt.:	
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	438 Hrs as of last inspection	Engine Manufacturer:	Lycoming
ELT:	C126 installed, not activated	Engine Model/Series:	O-360-A1A
Registered Owner:	Caye Palmas Transport Inc.	Rated Power:	180 Horsepower
Operator:	Caye Palmas Transport Inc.	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	167,584 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	13:55 Local	Direction from Accident Site:	
Lowest Cloud Condition:	Scattered / 7500 ft AGL	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	15 knots / 21 knots	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	270°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	29.86 inches Hg	Temperature/Dew Point:	16°C / -1°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Cynthiana, KY (018)	Type of Flight Plan Filed:	VFR
Destination:	Harrison, OH (I67)	Type of Clearance:	None
Departure Time:	13:40 Local	Type of Airspace:	Class G

Airport Information

Airport:	Cincinnati West Airport I67	Runway Surface Type:	Asphalt
Airport Elevation:	584 ft msl	Runway Surface Condition:	Dry
Runway Used:	19	IFR Approach:	None
Runway Length/Width:	2808 ft / 60 ft	VFR Approach/Landing:	Full stop;Traffic pattern

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	1 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	39.259166,-84.774444(est)

Administrative Information

Investigator In Charge (IIC):	Fox, Andrew
Additional Participating Persons:	Duane Hoff; Federal Aviation Administration; Cincinnati, OH Robert Craig; Federal Aviation Administration; Cincinnati, OH
Original Publish Date:	June 29, 2020
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=101033

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