



Aviation Investigation Final Report

Location:	Whitmore, Arizona	Accident Number:	WPR20CA298
Date & Time:	September 7, 2020, 13:00 Local	Registration:	N186GC
Aircraft:	Cessna 208	Aircraft Damage:	Substantial
Defining Event:	<u>Loss of control on ground Sys/comp failure – non-power</u>	Injuries:	8 None
Flight Conducted Under:	Part 135: Air taxi & commuter - Scheduled		

Analysis

The pilot reported that, during the landing ground roll, the airplane started to veer left. He applied right rudder input, but the airplane continued to “drag” left. As the pilot repositioned his feet ~~from the pedals~~ to apply the brakes, the airplane “turned harder continued to the veer left,” exited the runway, and impacted terrain. The right wing was substantially damaged. The pilot thought that “a left main tire malfunction on or before landing” had occurred.

An examination of the left wheel and tire assembly (by the Federal Aviation Administration) found that the valve stem to the tire inner tube had completely sheared off and was located inside the tire. No other damage to the inner tube was noted, and revealed no other anomalies were observed within the assembly. The operator’s ~~D~~irector of ~~M~~aintenance reported ~~that there were~~ no preimpact mechanical malfunctions or failures that would have precluded normal operation.

A video recording of the accident landing (taken by a passenger in the first row of passenger seats) indicated that, based on the sound recorded, the left main landing gear tire became flat immediately after main gear touchdown. The left flat tire would have increased the drag between the tire and the runway surface, resulting in a left-turning tendency and a loss of directional control.

In addition, a photograph taken during the on-scene investigation showed a double track on the runway starting near the location where the left main tire touched down. The double track was likely caused by the rubber in the left and right sidewalls of the tire contacting the runway after the center of the tire deflated.

The left main landing gear tire was installed on the airplane 3 days before the accident. The tire could have become flat if it had been improperly installed or had a material defect. It is also possible that the tire became flat because it hit something not heard or seen on the video of the landing. In addition, another photograph taken during the on-scene investigation showed that

the valve stem of the tire inner tube was sheared, indicating that the tire could have become flat because the valve (within the valve stem) had failed.

The failure mode for the left main landing gear tire could not be determined based on the available evidence. Nevertheless, the evidence was sufficient to show that the reason for the airplane's loss of lateral directional control was the flat left main tire.

Probable Cause and Findings

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

The pilot's loss of directional control during landing due to a flat main landing gear tire, which resulted in a lateral runway excursion and impact with terrain.

Findings

Aircraft

Tube – Unknown/Not determined

Aircraft

Directional control - ~~Not a~~Attained/maintained not possible

Personnel issues

~~Aircraft control – Pilot~~

Factual Information

History of Flight

<u>Landing-landing roll</u>	<u>Sys/Comp malf/fail (non-power)</u>
<u>Landing-landing roll</u>	<u>Unknown or undetermined</u>
Landing-landing roll	Loss of control on ground (Defining event)
Landing-landing roll	Runway excursion
Landing-landing roll	Collision with terr/obj (non-CFIT)

Pilot Information

Certificate:	Commercial	Age:	57, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	5-point
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 1 With waivers/limitations	Last FAA Medical Exam:	April 30, 2020
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	August 25, 2020
Flight Time:	(Estimated) 1460 hours (Total, all aircraft), 600 hours (Total, this make and model), 1210 hours (Pilot In Command, all aircraft), 216 hours (Last 90 days, all aircraft), 70 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N186GC
Model/Series:	208 B	Aircraft Category:	Airplane
Year of Manufacture:	2009	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	208B2161
Landing Gear Type:	Tricycle	Seats:	10
Date/Type of Last Inspection:	August 22, 2020 AAIP	Certified Max Gross Wt.:	8750 lbs
Time Since Last Inspection:	35.8 Hrs	Engines:	1 Turbo prop
Airframe Total Time:	8044.3 Hrs at time of accident	Engine Manufacturer:	Pratt & Whitney Canada
ELT:	C126 installed, activated, did not aid in locating accident	Engine Model/Series:	PT6A-114A
Registered Owner:	Zuni Llc	Rated Power:	675 Horsepower
Operator:	Grand Canyon Airlines	Operating Certificate(s) Held:	On-demand air taxi (135)

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KAZC,4874 ft msl	Distance from Accident Site:	43 Nautical Miles
Observation Time:	12:35 Local	Direction from Accident Site:	14°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	6 knots / 14 knots	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	350°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	30.02 inches Hg	Temperature/Dew Point:	39°C / 0°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Boulder City, NV (KBVU)	Type of Flight Plan Filed:	
Destination:	Whitmore, AZ	Type of Clearance:	None
Departure Time:	12:10 Local	Type of Airspace:	Class G

Airport Information

Airport:	Grand Canyon Bar Ten Airstrip 1Z1	Runway Surface Type:	Asphalt
Airport Elevation:	4100 ft msl	Runway Surface Condition:	Dry
Runway Used:	34	IFR Approach:	None
Runway Length/Width:	4600 ft / 40 ft	VFR Approach/Landing:	Full stop;Traffic pattern

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	7 None	Aircraft Fire:	None
Ground Injuries:		Aircraft Explosion:	None
Total Injuries:	8 None	Latitude, Longitude:	36.256389,-113.23083(est)

Administrative Information

Investigator In Charge (IIC):	Nepomuceno, Eleazar
Additional Participating Persons:	Michael Levine; FAA - FSDO; Las Vegas, NV
Original Publish Date:	August 24, 2021
Last Revision Date:	
Investigation Class:	Class 4
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=101931

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).