



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

Aviation Investigation Final Report

Location:	Thomaston, Georgia	Accident Number:	ERA18LA226
Date & Time:	July 4, 2018, 09:30 Local	Registration:	N8314W
Aircraft:	Piper PA28	Aircraft Damage:	Substantial
Defining Event:	Landing gear collapse	Injuries:	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot performed a preflight inspection with no anomalies noted before the cross-country flight. He made a full-stop landing at an airport before flying to the destination airport. He configured the airplane for final approach. The main landing gear touched down, but when the nose landing gear contacted the runway, the airplane veered left. The pilot attempted to counteract the turn by applying rudder; however, the airplane continued to the left side of the runway. The right wing tip touched the pavement, the propeller struck the runway, and the nose landing gear wheel separated as the airplane continued off the runway. The airplane came to rest about 75 ft off the left side of the runway in a grassy area. The rod that attached the nosewheel to the nosewheel assembly remained connected to the nose landing gear fork; however, the rod was bent, and one of the nuts that secured the nosewheel to the rod was missing. Further examination revealed that the rod was threaded on both ends; one end had a nut attached, while the other end had bare threads that had been deformed in a manner consistent with the nut having been pulled off the threads. The missing nut was not located on the runway. The airplane had landed over 250 times between the most recent annual inspection and the accident. The location of the missing nut could not be seen during the preflight inspection because the area is covered by the wheel fairing. It could not be determined when the nut was pulled from the axle rod.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A landing gear axle nut being pulled from the threads of the axle rod at an unknown time, which resulted in the pilot's inability to maintain directional control during landing.

Findings

Aircraft	Nose/tail gear strut/axle - Damaged/degraded
Aircraft	Directional control - Attain/maintain not possible

Factual Information

History of Flight

Landing-landing roll	Landing gear collapse (Defining event)
Landing-landing roll	Loss of control on ground

On July 4, 2018, about 0930 eastern daylight time, a Piper PA-28-180, N8314W, was substantially damaged while landing at Thomaston-Upson County Airport (OPN), Thomaston, Georgia. The student pilot was not injured. Visual meteorological conditions prevailed, and no flight plan was filed for the local flight, which originated from Griffin-Spalding County Airport (6A2), Griffin, Georgia, around 0830. The personal flight was conducted under the provisions of Title 14 Code of Federal Regulations Part 91.

According to the pilot, he performed a preflight inspection of the airplane with no anomalies noted. After departure, he completed one full stop landing at 6A2, before departing for OPN. While on final approach to runway 12, he configured the airplane for landing and lined up with the centerline of the runway. The main landing gear touched down on the runway numbers, and when the nose landing gear contacted the runway, the airplane veered to the left. The pilot attempted to counteract the turn by applying rudder, however, the airplane continued to the left side of the runway. The right-wing tip touched the pavement, the propeller struck the runway, and the nose landing gear wheel separated as the airplane continued off the runway. The airplane came to rest about 75 ft off the left side of runway in a grassy area.

Examination of the airplane by a Federal Aviation Administration (FAA) inspector after the accident revealed that an engine mount was substantially damaged, and the nose landing gear and right wing incurred minor damage during the accident sequence. The rod that attached the nose wheel to the nose landing gear assembly remained in the nose wheel fork and was bent. However, a nut that secured the nose wheel onto the rod of the nose wheel fork was not located. The runway was searched, and it was still not located.

According to FAA airworthiness records, the airplane was manufactured in 1965 and was purchased by the pilot in November 2017. It was powered by a Lycoming O-360-A3A, 180-horsepower engine equipped with a Sensenich fixed pitch propeller. According to airplane maintenance logbooks, the most recent annual inspection was completed on November 10, 2017, at a total time of 2,599.2 hours.

The landing gear wheel attachment part was sent to the NTSB Materials Laboratory for examination. The examination revealed that the part was a 3/8-inch rod threaded on both ends. One end had a nut attached and the other end exhibited bare threads. Further review of the threads revealed that they had been deformed in a manner consistent with the nut having been pulled off the threads.

According to the FAA Inspector, the nose wheel had not been removed since the annual inspection and the airplane had over 250 landings since the last maintenance on the nose gear tire.

According to the pilot, the nut that secures the nose wheel to the rod and fork assembly, that was not located, cannot be seen during a preflight inspection since it was covered by a wheel fairing.

Student pilot Information

Certificate:	Student	Age:	47, Male
Airplane Rating(s):	None	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Lap only
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 Without waivers/limitations	Last FAA Medical Exam:	January 24, 2018
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	75 hours (Total, all aircraft), 75 hours (Total, this make and model), 39.7 hours (Pilot In Command, all aircraft), 69.8 hours (Last 90 days, all aircraft), 40.5 hours (Last 30 days, all aircraft), 2.4 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N8314W
Model/Series:	PA28 180	Aircraft Category:	Airplane
Year of Manufacture:	1965	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	28-2487
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	November 10, 2017 Annual	Certified Max Gross Wt.:	2400 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	2599.2 Hrs as of last inspection	Engine Manufacturer:	Lycoming
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	O-360-A3A
Registered Owner:		Rated Power:	180 Horsepower
Operator:	On file	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	OPN,796 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	09:35 Local	Direction from Accident Site:	128°
Lowest Cloud Condition:		Visibility	10 miles
Lowest Ceiling:	Broken / 8000 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	5 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	30°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.2 inches Hg	Temperature/Dew Point:	25°C / 20°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Griffin, GA (6A2)	Type of Flight Plan Filed:	None
Destination:	Thomaston, GA (OPN)	Type of Clearance:	None
Departure Time:	08:30 Local	Type of Airspace:	Class G

Airport Information

Airport:	Thomaston-Upson County OPN	Runway Surface Type:	Asphalt
Airport Elevation:	797 ft msl	Runway Surface Condition:	Dry
Runway Used:	12	IFR Approach:	None
Runway Length/Width:	6350 ft / 100 ft	VFR Approach/Landing:	Stop and go;Traffic pattern

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	32.9575,-84.267776(est)

Administrative Information

Investigator In Charge (IIC):	Kemner, Heidi
Additional Participating Persons:	Ronald Bean; FAA/FSDO; Atlanta, GA
Original Publish Date:	August 10, 2020
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=98128

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

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](#).