



National Transportation Safety Board Aviation Accident Data Summary

Location:	Lawrenceville, GA	Accident Number:	ERA09LA050
Date & Time:	11/01/2008, 1630 EDT	Registration:	N2214N
Aircraft:	PIPER PA-44-180	Injuries:	2 None
Flight Conducted Under:	Part 91: General Aviation - Instructional		

Analysis

During touchdown following a practice ILS approach, the nose gear collapsed, resulting in structural damage to the airplane. Examination of the nose gear assembly revealed that the nose gear drag link bolt failed. The bolt was installed on the airplane approximately 441 flight hours prior to the accident, and Piper Service Bulletin (SB) 1156 requires operators to replace the bolt at 500-hour intervals due to a history of fatigue failures. Examination of the failed bolt revealed that it met design specifications for hardness, surface roughness, and microstructure. Further examination indicated that the bolt failed from reversed bending fatigue. The failure mode was atypical of the failure mode that prompted issuance of the SB.

Flight Events

Landing-landing roll - Landing gear collapse

Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this accident to be:
The failure of the nose gear drag link bolt due to reversed bending fatigue.

Findings

Aircraft-Aircraft systems-Landing gear system-Nose/tail landing gear-Fatigue/wear/corrosion - C

Flight Instructor Information

Certificate:	Flight Instructor; Commercial	Age:	23
Airplane Rating(s):	Multi-engine Land	Instrument Rating(s):	Airplane
Other Aircraft Rating(s):	None	Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine; Instrument Airplane
Flight Time:	846 hours (Total, all aircraft), 71 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	PIPER	Registration:	N2214N
Model/Series:	PA-44-180	Engines:	2 Reciprocating
Operator:	FLIGHT SCHOOL OF GWINNETT INC	Engine Manufacturer:	Lycoming
Air Carrier Operating Certificate:	None	Engine Model/Series:	O-360
Flight Conducted Under:	Part 91: General Aviation - Instructional		

Meteorological Information and Flight Plan

Observation Facility, Elevation:	KLZU, 1061 ft msl	Weather Information Source:	Weather Observation Facility
Conditions at Accident Site:	Visual Conditions	Lowest Ceiling:	None
Condition of Light:	Day	Wind Speed/Gusts, Direction:	Calm
Temperature:	19° C / 2° C	Visibility	10 Miles
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Lawrenceville, GA (KLZU)	Destination:	Lawrenceville, GA (KLZU)

Airport Information

Airport:	Gwinnett County Airport (KLZU)	Runway Surface Type:	Asphalt
Runway Used:	25	Runway Surface Condition:	Dry
Runway Length/Width:	6000 ft / 100 ft		

Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None

Administrative Information

Investigator In Charge (IIC):	Ralph E Hicks	Adopted Date:	12/29/2009
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubin@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

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