



National Transportation Safety Board Aviation Incident Data Summary

Location:	Elyria, OH	Incident Number:	CEN13IA024
Date & Time:	10/17/2012, 1330 EDT	Registration:	N21ZA
Aircraft:	FLIGHT DESIGN CTLS	Injuries:	2 None
Flight Conducted Under:	Part 91: General Aviation - Instructional		

Analysis

The flight instructor reported that the airplane's fixed right main landing gear collapsed during landing. He reported that the landing was "not extraordinarily hard" and that it should have been well within the airplane's typical performance.

Postincident examination of the composite right main landing gear leg revealed several manufacturing defects, including wrinkled layers and layers that terminated at the surface when they should have been continuous, which reduced the landing gear leg's strength and its ability to resist longitudinal cracks. As a result of this investigation, the airplane manufacturer conducted an audit of the subcontractor that manufactured the landing gear legs. The audit revealed that, before the incident, the landing gear manufacturer had become aware of quality issues related to the mold closing process of the landing gear legs during manufacture and had implemented steps to reduce the recurrence of these issues. Based on the available evidence, the manufacturing defects in the composite main landing gear leg likely reduced the leg's load-carrying capacity and resulted in its eventual failure.

Flight Events

Landing-landing roll - Landing gear collapse

Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this incident to be:
The manufacturing defects in the main landing gear leg, which resulted in its eventual failure.

Findings

Aircraft-Aircraft systems-Landing gear system-Main gear strut/axle/truck-Failure - C
Organizational issues-Development-Manufacture/production-Equipment manufacture-Manufacturer
- C

Flight Instructor Information

Certificate:	Commercial	Age:	38
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Instrument Rating(s):	Airplane
Other Aircraft Rating(s):	None	Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine; Instrument Airplane
Flight Time:	910 hours (Total, all aircraft), 425 hours (Total, this make and model), 135 hours (Last 90 days, all aircraft)		

Student Pilot Information

Certificate:	Student	Age:	23
Airplane Rating(s):	None	Instrument Rating(s):	None
Other Aircraft Rating(s):	None	Instructor Rating(s):	None
Flight Time:	30 hours (Total, all aircraft), 30 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	FLIGHT DESIGN	Registration:	N21ZA
Model/Series:	CTLS	Engines:	1 Reciprocating
Operator:	Zone Aviation	Engine Manufacturer:	ROTAX
Operating Certificate(s) Held:	None	Engine Model/Series:	912
Flight Conducted Under:	Part 91: General Aviation - Instructional		

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	LPR, 793 ft msl	Weather Information Source:	Weather Observation Facility
Lowest Ceiling:	Overcast / 9000 ft agl	Wind Speed/Gusts, Direction:	9 knots / , 190°
Temperature:	18°C	Visibility	8 Miles
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Elyria, OH (LPR)	Destination:	Elyria, OH (LPR)

Airport Information

Airport:	Lorain County Regional Airport (LPR)	Runway Surface Type:	Asphalt
Runway Used:	25	Runway Surface Condition:	Dry
Runway Length/Width:	5002 ft / 100 ft		

Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Minor
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Latitude, Longitude:	41.344167, -82.177778		

Administrative Information

Investigator In Charge (IIC): John M Brannen

Adopted Date: 12/15/2014

Investigation Docket: <http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=85401>

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