



National Transportation Safety Board

Aviation Accident Data Summary

Location:	Shawano, WI	Accident Number:	CEN16LA043
Date & Time:	11/15/2015, 0904 CST	Registration:	N10UU
Aircraft:	HICKHAM LANCAIR IV-P	Injuries:	2 Minor
Flight Conducted Under:	Part 91: General Aviation - Instructional		

Analysis

While practicing an emergency descent during a dual training flight, the pilot receiving instruction entered the airplane into a steep dive, which resulted in a 0.5-G load factor for about 5 seconds and a transient drop in engine oil pressure of about 15 psi. As the descent continued, engine speed steadily increased beyond the maximum operating limit of 2,700 rpm. While still in the dive, the pilot initiated a left turn with a 3-G load factor, during which the engine oversped to 3,390 rpm. The engine immediately began to run rough, and subsequently experienced a total loss of power. The pilot executed a forced landing to a field with the landing gear and flaps retracted, during which the airplane struck a rock wall and tumbled.

Postaccident examination revealed that 8 teeth on the left magneto distributor drive gear and 16 teeth on the right gear had fractured. No evidence of progressive damage or material anomaly was observed with the distributor drive gear teeth. The nylon gear teeth were most likely damaged by the abnormal shock loads on the gear train during the engine overspeed. The damage to the gear teeth resulted in a dual magneto failure and subsequent loss of engine power.

The flight profile of a low-G pushover to a steep dive, which was accompanied by a drop in engine oil pressure, may have led to the propeller governor not supplying adequate oil pressure to the propeller, which subsequently contributed to the engine overspeed and the failure of the magnetos.

Flight Events

Maneuvering - Loss of engine power (total)
After landing - Collision with terr/obj (non-CFIT)

Probable Cause

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

A total loss of engine power due to a dual magneto failure, as a result of an exceedance of the engine's operating limitations while maneuvering.

Findings

Aircraft-Aircraft power plant-Ignition system-Magneto/distributor-Capability exceeded - C
 Aircraft-Aircraft power plant-Engine (reciprocating)-(general)-Incorrect use/operation - C

Pilot Information

Certificate:	Airline Transport; Flight Instructor; Commercial	Age:	66
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
Flight Time:	23000 hours (Total, all aircraft), 5 hours (Total, this make and model), 23000 hours (Pilot In Command, all aircraft), 17 hours (Last 90 days, all aircraft), 11 hours (Last 30 days, all aircraft), 5 hours (Last 24 hours, all aircraft)		

Flight Instructor Information

Certificate:	Flight Instructor; Commercial	Age:	54
Airplane Rating(s):	Multi-engine Land; Single-engine Land; Single-engine Sea	Instrument Rating(s):	Airplane
Other Aircraft Rating(s):	None	Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine; Instrument Airplane
Flight Time:	1416 hours (Total, all aircraft), 32 hours (Total, this make and model), 1302 hours (Pilot In Command, all aircraft), 124 hours (Last 90 days, all aircraft), 35 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	HICKHAM	Registration:	N10UU
Model/Series:	LANCAIR IV-P	Engines:	1 Reciprocating
Operator:	On file	Engine Manufacturer:	CONT MOTOR
Operating Certificate(s) Held:	None	Engine Model/Series:	TSIO-550 SER
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:	KCLI, 822 ft msl	Weather Information Source:	Weather Observation Facility
Lowest Ceiling:	None	Wind Speed/Gusts, Direction:	Calm / ,
Temperature:	5°C	Visibility	10 Miles
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	SHAWANO, WI (EZS)	Destination:	SHAWANO, WI (EZS)

Wreckage and Impact Information

Crew Injuries:	2 Minor	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Latitude, Longitude:	44.712778, -88.549167 (est)		

Administrative Information

Investigator In Charge (IIC):	Michael J Folkerts	Adopted Date:	03/06/2017
Note:	The NTSB did not travel to the scene of this accident.		
Investigation Docket:	http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=92334		

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.