



RECORD OF EXAMINATION

Mitchell Gallo
Aviation Accident Investigator
Central Region

Participants: Chris Lang, Continental Motors, Inc.
Date: June 9, 2017
NTSB Accident Number: CEN17LA178

Narrative:

Post-accident examination of the engine by the National Transportation Safety Board (NTSB) Investigator-In-Charge (IIC) and a Continental Motors representative revealed no mechanical anomalies that would have precluded normal operation. The engine was rotated through by hand with the spark plugs removed and thumb compression from all cylinders, drive train continuity, and valve train continuity were confirmed. Electrical continuity through from the magnetos and through the ignition harness was confirmed during the rotation.

One of the two propeller blades was rotated about 90 degrees and was beyond its high pitch limits. Both propeller blades exhibited bending, twisting, paint scuffing, leading edge impacts, and overall propeller assembly damage is typical of that associated with low-level torsion at impact. The propeller was removed from the engine and sent to McCauley for disassembly and metallurgical examinations under the supervision of the NTSB IIC.

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Participants: Andrew Hall, Textron Aviation
Danny Ball, McCauley Propeller Systems - Textron

Date: August 9, 2017
NTSB Accident Number: CEN18LA178

Narrative:

The propeller was a 1978 manufactured McCauley, model number D2A34C66-NP/E-S-90AT-8, serial number 787633, propeller. The propeller was a C66 model that had a threaded blade retention. The C66 model was first certified in June of 1964. This type of propeller (and supporting spares) is obsolete and no longer produced by McCauley.

Both propeller blades were manufactured before 1976 and had the following serial numbers: blade 1 - K96493YS, blade 2 - K96462YS. The last propeller overhaul occurred prior to installation on the airplane on June 7, 1993 (23 years and 10 months prior to the accident). The last propeller logbook entry was dated March 27, 2017 (approximately one month prior to the accident) and indicated a time since overhaul of 1,592.12 hours.

McCauley mandates overhaul intervals of this C66 model propeller in Service Bulletin SB137AF. The revision in effect at last recorded overhaul (SB137E) of the accident propeller and all subsequent revisions of SB137 have consistently mandated propeller overhaul at 1,500 hours or 60 calendar months, whichever occurs first.

The propeller examination revealed that the propeller had indications of several post-delivery field service events including multiple ferrule drill holes, and red oil fill modification per McCauley Service Bulletin SB152A.

The blade 1 actuating pin did not display damage or cracks. Blade 2 had a broken actuating pin (A-3149), which had indications that the pin failed in high cycle fatigue prior to impact. The pin material, hardness, and the combination cadmium and chrome plate finish was consistent with a pin manufactured sometime between start of production and May 1965. The pin material, and manufacturing methods were correct and compliant to the engineering requirements at time of production.

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