Continuing Airworthiness Notice – 85-003 Revision 1

Teledyne Continental Engines - Propeller Strikes and Hydraulic Locks

26 April 2019

Issued by the Civil Aviation Authority of New Zealand in the interests of aviation safety. A Continuing Airworthiness Notice (CAN) is intended to alert, educate, and make recommendations to the aviation community. A CAN contains non-regulatory information and guidance that does not meet the criteria for an Airworthiness Directive (AD). The inspections and practices described in this CAN must still be carried out in accordance with the applicable NZCAR Parts 21, 43 and 91. CAN numbering is by ATA Chapter and a serial number for the next CAN in that ATA Chapter.

The contents of this notice are ADVISORY ONLY and are NOT MANDATORY.

Applicability:

All Teledyne Continental reciprocating engines that have experienced a propeller strike, or a hydraulic lock event.

Purpose:

This Continuing Airworthiness Notice (CAN) is prompted by a recent catastrophic engine failure, which was likely due to a previous hydraulic lock event. This CAN is issued to alert operators/maintainers of Teledyne Continental reciprocating engines of the corrective actions required by the engine OEM after a propeller strike, or a hydraulic lock event. Teledyne Continental SB No. SB96-11B, dated 7 July 2008 provides mandatory OEM inspections and corrective actions to return an engine to service after a propeller strike, or a hydraulic lock event. These inspections and corrective actions are necessary to ensure the continued airworthiness of the engine.

Background:

TCM SB No. SB96-11B provides information about the following:

1. Definition of a propeller strike and propeller foreign object damage (FOD) and the possible resultant damage that can occur from such events. The SB includes the inspections and corrective actions required after such events.
2. Definition of a hydraulic lock and the conditions which may result in a hydraulic lock event, including the precautions to reduce the likelihood of causing an engine hydraulic lock prior to and during engine start.
3. Indications of a possible engine hydraulic lock and the inspections and corrective actions required after a hydraulic lock event.

The inspections and corrective actions mandated by Teledyne Continental in SB96-11B are required to ensure the future reliability of an engine after a propeller strike, and/or a hydraulic lock event. Propeller strike and engine hydraulic lock incidents can potentially cause damage to the reciprocating and rotating parts of the engine. Following a propeller strike, all rotating engine components and all engine driven accessories including the propeller flange and the crankshaft flange area should be inspected. In the event of a suspected engine hydraulic lock the connecting rods should be inspected in accordance with the applicable TCM Overhaul Manual.

Recommendation:

The CAA strongly recommends compliance with the inspections and corrective actions in SB No. SB96-11B required by Teledyne Continental after a propeller strike, or a hydraulic lock event. These inspections and corrective actions required by the OEM are necessary to ensure the future reliability of an engine after a propeller strike, and/or a hydraulic lock event.

A copy of TCM SB No. SB96-11B is available on the TCM website at http://www.continentalmotors.aero/support/service-bulletins.aspx#