AIRWORTHINESS DIRECTIVE

This Airworthiness Directive (AD) is issued pursuant to Canadian Aviation Regulation (CAR) 521.427. No person shall conduct a take-off or permit a take-off to be conducted in an aircraft that is in their legal custody and control, unless the requirements of CAR 605.84 pertaining to ADs are met. Standard 625 - Aircraft Equipment and Maintenance Standards Appendix H provides information concerning alternative means of compliance (AMOC) with ADs.

Number:

CF-2020-13

Effective Date:

12 May 2020

ATA:

72

Type Certificate:

E-36

Subject:

Engine – Manual Calculation of Cycle Count for the Impeller and High Pressure Compressor Rotor

Applicability:

Pratt & Whitney Canada (P&WC) model PW210A and PW210S engines.

Compliance:

As indicated below, unless already accomplished.

Background:

The engine manufacturer has discovered that the Automated Damage Tracking System (ADTS) may under-count the number of cycles accrued by the impeller and the High Pressure (HP) compressor rotor. The impeller and HP compressor rotor are both life limited components and exceeding their published life limits could result in the failure of these components.

Failure of the impeller or HP compressor rotor could result in the uncontained release of the impeller or the HP compressor rotor, and subsequently could result in damage to the engine, damage to the helicopter, and loss of control of the helicopter.

This AD mandates the use of the Manual Low Cycle Fatigue (LCF) Counting method to ensure that the impeller and HP compressor rotor do not exceed their published life limits.

This AD is considered interim action and further AD action may follow.

Corrective Actions:

Part I – For engines that have accumulated 7000 starts or 14 000 flight cycles since new, whichever occurs first, as of the effective date of this AD:

A. Remove the impeller and HP compressor rotor upon reaching their Life Limits, as defined in Table 1 of task 00-00-00-860-801 in the applicable P&WC Engine Maintenance Manual (EMM), Part No. 30L2392 or 30L0892, Airworthiness Limitations Section, as calculated using the Manual LCF Counting method in accordance with P&WC Service Bulletins (SBs) PW210-72-A57142 or PW210-72-A57143, as applicable, both at Revision 1 and dated 26 March 2020, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

   The use of the Manual LCF Counting method in accordance with the Original Issues of P&WC SBs PW210-72-A57142 or PW210-72-A57143, as applicable, both dated 15 January 2020, also meets the intent of paragraph A.

B. The use of the ADTS to count the accumulated total cycles on the impeller and HP compressor rotor is prohibited. Once the accumulated total cycles of these components is established in accordance with the above paragraph A, the Manual LCF Counting method, specified in task 00-00-00-860-803 of the applicable P&WC EMM, Part No. 30L2392 or 30L0892, Airworthiness Limitations Section, must be used.

Part II – For all engines

Prior to removal of the engine for the purpose of sending the engine to a repair/overhaul facility, establish the accumulated total cycles of the impeller and HP compressor rotor in accordance with P&WC SBs PW210-72-A57142 or PW210-72-A57143, as applicable, both at Revision 1 and dated 26 March 2020, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

Authorization:

For the Minister of Transport,

ORIGINAL SIGNED BY

Rémy Knoerr
Chief, Continuing Airworthiness
Issued on 28 April 2020

Contact:

Robert Farinas, Continuing Airworthiness, Ottawa, telephone 888-663-3639, facsimile 613-996-9178 or e-mail AD-CN@tc.gc.ca or any Transport Canada Centre.