AIRWORTHINESS DIRECTIVE

For the reasons set out in the background section, the CASA delegate whose signature appears below issues the following Airworthiness Directive (AD) under subregulation 39.001(1) of CASR 1998. The AD requires that the action set out in the requirement section (being action that the delegate considers necessary to correct the unsafe condition) be taken in relation to the aircraft or aeronautical product mentioned in the applicability section: (a) in the circumstances mentioned in the requirement section; and (b) in accordance with the instructions set out in the requirement section; and (c) at the time mentioned in the compliance section.

CFM International Turbine Engines - CFM56 Series

AD/CFM56/27 Low Pressure Turbine Rear Frame Life - 5 Series Engines 11/2007 DM

Applicability: CFM International (CFM) Model CFM56-5B1/P, -5B2/P, -5B3/P, -5B3/P1,-5B4/P, -5B4/P1, -5B5/P, -5B6/P, -5B7/P, -5B8/P and -5B9/P turbofan engines operating in commercial application and Model CFM56-5B6/P and -5B7/P turbofan engines operating in corporate application (conversion per SB 72-0308), if equipped with a low pressure turbine (LPT) rear frame part number (P/N) 338-171-703-0, 338-171-704-0, 338-171-705-0 or 338-171-706-0.

Note 1: These engines are known to be installed on, but not limited to, Airbus A318, A319, A320 and A321 series aircraft.

Requirement:

1. For LPT rear frame P/N 338-171-703-0, 338-171-704-0, 338-171-705-0, 338-171-706-0, comply with the LCF life limits in accordance with the chapters 05-12-04, 05-12-24 and 05-21-03 in the CFM56-5B ESM, revision 47, dated 15 January 2007, or later approved revision.

2. If the number of cycles accumulated since new by a LPT rear frame P/N 338-171-703-0, 338-171-704-0, 338-171-705-0, 338-171-706-0 cannot be established, remove and replace the LPT rear frame, or perform the inspections in accordance with CFM56-5B Service Bulletin S/B 72-0620 initial issue, or later approved revision.

Note 2: EASA AD 2007-0221 dated 13 August 2007 refers.

Compliance:

1. Within 7 days after the effective date of this AD, unless previously accomplished.

2. Within 300 cycles after the effective date of this AD.

This Airworthiness Directive becomes effective on 3 September 2007.

Background: Before the issue of the CFM56-5B Engine Shop Manual (ESM) Temporary Revision (TR) 05-0145, the concerned LPT rear frames were not subject to a life limit in commercial applications, and in corporate applications the CFM56-5B6/P and –5B7/P engines were life limited to 22 500 cycles.

CFM International Turbine Engines - CFM56 Series

AD/CFM56/27 (continued)

Using a refined damage tolerant approach accounting for crack initiation and propagation to ensure any cracking that is present will not grow to unsafe levels; CFM has now established a low cycle fatigue (LCF) life limit for the concerned LPT rear frames. This requirement was first introduced by revision TR 05-0145 of the CFM56-5B ESM. This revision is approved by EASA and its content has been integrated in revision 47 of the CFM56-5B ESM, dated January 15, 2007.

For the reason described above, this AD requires operators to revise their aircraft maintenance programs in accordance with these LCF life limits affecting new P/Ns.

Charles Lenarcic
Delegate of the Civil Aviation Safety Authority

28 August 2007