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.

Pratt & Whitney Canada Turbine Engines - PT6B Series

AD/PT6B/1 Gas Generator Case 13/2010

Applicability: All PT6B-36 and -36A engine models not incorporating:

(a) gas generator case P/N 3112048-01 identified by P&WC SB 11041, or
(b) superseding parts incorporating the intent of SB 11041, or
(c) stiffening plates P/N 3102444-01.

Requirement:

1. Unless previously accomplished, inspect the gas generator case for seam weld cracking in accordance with Part 2A of the Accomplishment Instructions of P&WC SB 11031R1 or later revision.

2. Repair all seam weld cracking in accordance with Part 2B of the Accomplishment Instructions of P&WC SB 11031R1 or later revision. This repair constitutes terminating action of this AD.

Note: Transport Canada AD CF-88-01R1 refers.

Compliance:

1. Prior to gas generator cases accumulating 1200 hours time in service since new or within the next 100 hours time in service from the effective date of this AD, whichever occurs last. Thereafter at intervals not exceeding 600 hours time in service.

2. Prior to further flight.

This Airworthiness Directive becomes effective on 9 July 2010.

Background:

A number of gas generator case longitudinal seam welds have been found cracked. An undetected weld seam crack could lead to the rupture of the pressure vessel and a subsequent unsafe condition. This AD requires dye penetrant inspection of the gas generator case longitudinal seam and repair if found cracked. This AD is issued as a result of an audit of Transport Canada ADs.

Mike Higgins
Delegate of the Civil Aviation Safety Authority

22 June 2010
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.

Pratt & Whitney Canada Turbine Engines - PT6B Series

AD/PT6B/2 Compressor Rear Hub - Life Limit Review 13/2010

Applicability: All Pratt and Whitney Canada (P&WC) PT6B-36A, and PT6B-36B series engines.

Requirement: 1. Unless previously accomplished in accordance with AD/PT6A/33, review and correct the critical part records for Compressor Rear Hub part number (P/N) 3018111 in accordance with P&WC Service Bulletin (SB) PT6B-72-11002 Revision 8, dated 11 June 2003 or later revisions approved by Transport Canada.

2. Remove from service any Compressor Rear Hub found, in compliance with Requirement 1, to have exceeded the published life limit contained in P&WC SB PT6B-72-11002 Revision 8, dated 11 June 2003, or later revisions approved by Transport Canada.

Note: Transport Canada AD CF-2003-16 refers.

Compliance: For Requirement 1: Within 30 days or at the next engine shop visit, whichever is the sooner, from the effective date of this Directive.

For Requirement 2: Before further flight. However, in the event that the part cannot be replaced due to the location of the aircraft, the aircraft may be operated to a facility where the part is to be replaced within 25 cycles or 25 flight hours, whichever occurs first, following compliance with Requirement 1.

This Airworthiness Directive becomes effective on 9 July 2010.

Background: AD/PT6A/33 was issued after a review of PW&C SB PT6B-72-11002 found an error in the Flight Count Factor (FAF) criteria used in calculating critical life limits of the Compressor Hub P/N 3018111. One engine was found to have exceeded the life limit using the corrected FAF. This Directive therefore required a review to correct the critical parts record of Compressor Hub’s having P/N 3018111 and to remove them from service if it is calculated that they have exceeded the critical life limit using the amended FAF number.
However, AD/PT6A/33 was published in the Pratt and Whitney Canada Turbine Engines - PT6A series but the applicability was for PT6B engines only. This AD has now been included in the PT6B series to ensure all PT6B engine operators are aware of this AD.

Mike Higgins
Delegate of the Civil Aviation Safety Authority

17 June 2010
AIRWORTHINESS DIRECTIVE

The following airworthiness directive (AD) may be applicable to an aircraft which our records indicate is registered in your name. ADs are issued pursuant to Canadian Aviation Regulation (CAR) 521 Division X. Pursuant to CAR 605.84 and the further details of CAR Standard 625, Appendix H, the continuing airworthiness of a Canadian registered aircraft is contingent upon compliance with all applicable ADs. Failure to comply with the requirements of an AD may invalidate the flight authorization of the aircraft. Alternative means of compliance shall be applied for in accordance with CAR 605.84 and the above-referenced Standard.

This AD has been issued by the Continuing Airworthiness Division (AARDG), National Aircraft Certification Branch, Transport Canada, Ottawa, telephone 613 952-4357.

Type Certificate: E-20

Subject: Engine Indicating - Incorrect Engine Torque Indication


Applicability: Pratt & Whitney Canada (P&WC) model PT6B-37A engines with pre-Service Bulletin (SB) 39092 configuration and serial numbers:

PCE-PU0001, PU0004, PU0006, PU0008, PU0009, PU0010, PU0015, PU0016, PU0023, PU0025, PU0033, PU0034, PU0036 thru PU0055, PU0058 thru PU0063, PU0066, PU0068, PU0069, PU0070, PU0072 thru PU0087, PU0092, PU0096, PU0098, PU0099, PU0100, PU0101, PU0102, PU0105 thru PU0113, PU0121, PU0122, PU0125 thru PU0142, PU0144, PU0147 thru PU0161, PU0163 thru PU0169 thru PU0209, PU0212, PU0213, PU0214, PU0216, PU0219 and PU0220.

Compliance: As indicated below, unless already accomplished.

Background: Five incidences of incorrect engine torque indication have been reported for PT6B-37A engine installations on AW119MKII helicopters. A lower than actual engine torque indication due to a faulty indication system, particularly on a helicopter being operated at max allowable torque (90 to 110%) range, may result in an undetected over-torque condition.

Repeated over torque conditions that are undetected and consequently are not corrected in accordance with conditional inspection requirements of original equipment manufacturer (OEM) Instructions for Continued Airworthiness (ICAs), may have a negative impact on the operational safety of the aircraft. Investigation by P&WC has determined the root cause of subject torque indication anomaly to be the axial migration of part number (P/N) 3310433-03 bearings at the engine torque sensing gear location.

To address the subject bearing migration problem, P&WC has issued SB 39095, which as an interim mitigating action requires periodic inspection of the #10 bearing, until such time as the subject P/N 3310433-03 bearings are removed from affected in-service engines in accordance with SB 39092. This AD is issued to mandate compliance with SB 39092R4 and SB 39095R3.

Corrective Actions:

Part I – All affected engines

Within 50 hours air time from the effective date of this AD, check affected engines for bearing P/N 3310433-03 installation at #10 bearing location in accordance with P&WC SB 39095R3 accomplishment instructions, dated 29 December 2014, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

If P/N 3310433-03 bearing is installed, before next flight, comply with the applicable Part II or Part III of this AD.

Pursuant to CAR 202.51 the registered owner of a Canadian aircraft shall, within seven days, notify the Minister in writing of any change of his or her name or address.

For all changes to your mailing address, contact your TC Regional Aircraft Registration Office at 1-800-305-2059, option 1 for English, 2 for Aircraft Registration and then select the appropriate region.
Part II – For affected engines with 500 hours air time or less since new

Inspect bearing P/N 3310433-03 at #10 bearing location for axial migration, and rectify any noted discrepancy. Repeat the subject inspection for axial migration every 100 hours air time and once an engine has accumulated 500 hours air time, re-inspect every 200 hours air time and rectify as required, in accordance with P&WC SB 39095R3 accomplishment instructions, dated 29 December 2014, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

Engines inspected in compliance with Required Action (1) of EASA AD 2014-0175, are considered compliant with initial inspection requirements of Part I, II and III of this AD.

Part III – For affected engines with more than 500 hours air time since new

Inspect bearing P/N 3310433-03 at #10 bearing location for axial migration, rectify any noted discrepancy and repeat the subject inspection for axial migration, every 200 hours air time and rectify as required, in accordance with P&WC SB 39095R3 accomplishment instructions, dated 29 December 2014, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

Part IV - Replacement of bearing P/N 3310433-03 at #9 and #10 bearing locations

A. For engine serial numbers: PCE-PU0192, PU0193, PU0201, PU0208, PU0209, PU0212, PU0213, PU0214, PU0216, PU0219 and PU0220:

Within 450 hours air time or 42 months, whichever occurs first, from the effective date of this AD, verify and replace bearing P/N 3310433-03 at #9 and #10 bearing locations in accordance with P&WC SB 39092R4 accomplishment instructions, dated 29 December 2014, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

B. For engine serial numbers: PCE-PU0001, PU0004, PU0006, PU0008, PU0009, PU0010, PU0015, PU0016, PU0023, PU0025, PU0033, PU0034, PU0036 thru PU0055, PU0058 thru PU0063, PU0066, PU0068, PU0069, PU0070, PU0072 thru PU0087, PU0092, PU0096, PU0098, PU0099, PU0100, PU0101, PU0102, PU0105 thru PU0113, PU0121, PU0122, PU0125 thru PU0142, PU0144, PU0147 thru PU0161, PU0163 thru PU0167, PU0169 thru PU0191, PU0194 thru PU0200, PU0202 thru PU0207:

Before 42 months, from the effective date of this AD, verify and replace bearing P/N 3310433-03 at #9 and #10 bearing locations in accordance with P&WC SB 39092R4 accomplishment instructions, dated 29 December 2014, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

Compliance with Part IV above constitutes the terminating action for this AD.

Compliance with earlier versions of SB 39092 prior to the effective date of this AD, meets the mandated requirement of Part IV of this AD.

Compliance with Required Actions (2) or (3) of EASA AD 2014-0175, meets the intent of Part IV requirement of this AD.

Authorization: For the Minister of Transport,

ORIGINAL SIGNED BY

Philip Tang
Acting Chief, Continuing Airworthiness

Contact: A. K. Durrani, Continuing Airworthiness, Ottawa, telephone 613-952-4357, facsimile 613-996-9178 or e-mail AD-CN@tc.gc.ca or any Transport Canada Centre.