



No.	CF-2005-40	1/2
Issue Date 5 December 2005		

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) 593**. 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), Aircraft Certification Branch, Transport Canada, Ottawa, telephone 613 952-4357.

Number: CF-2005-40

Subject: Non-Conformance of Maintenance on Reciprocating Engines

Effective: 10 January 2006

Applicability: All Textron Lycoming and Teledyne Continental Motors reciprocating engines that have been overhauled, repaired or disassembled between 1 February 2002 and 18 July 2004, to the extent where the main crankcase halves have been split, by B.C. Aero Engines Ltd., an approved maintenance organization (AMO) 84-02, of 5-9566 Hurricane Road, Sidney, British Columbia, Canada.

Compliance: As detailed below, unless already accomplished.

Background: Transport Canada has received several reports of disassembly of engines (to correct in-service defects) that were overhauled or repaired by B.C. Aero Engines Ltd. with numerous non-conformities on the engines. Further investigation carried out by Transport Canada has determined certain Textron Lycoming and Teledyne Continental Motors reciprocating engines that have been overhauled, repaired or disassembled by B.C. Aero Engines Ltd. are not in conformance with the manufacturer's overhaul data and have serious quality issues that may result in an unsafe situation. Transport Canada cancelled B.C. Aero Engines' AMO (84-02) on 18 July 2004.

The above situation, if not corrected, may result in an in-flight engine failure.

Corrective Actions:

1. Engine Log Book Review

- (a) Within 30 days after the effective date of this directive, review the Technical Records including the engine logbook to determine if the engine had been inspected, repaired or disassembled to the extent the crankcase halves were split, or if the engine had been overhauled by B.C. Aero Engines Ltd. between 1 February 2002 and 18 July 2004.
- (b) If no engine inspection, repair or disassembly to the extent the crankcase halves were split, or no engine overhaul work was performed by B.C. Aero Engines Ltd., no further action is required by this directive.

2. For Single Engine-Powered Aircraft:

- (a) Within the next 50 hours air time, or 6 months after the effective date of this directive, whichever occurs first:

Inspect the affected engine for evidence of non-conformity, including the excessive use of crankcase split-line sealant to that recommended by the applicable overhaul manual, crankcase split-line fretting, excessive split-line oil leaks, loss of crankcase through-bolt torque and unapproved repairs. If necessary, restore the engine's conformity.

- (b) If the engine had exhibited in-service difficulties (such as oil leaks or oil filter contamination) prior to the effective date of this directive, within five (5) hours air time or 30 days after the effective date of this directive, whichever occurs first:

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.

To request a change of address, contact the Civil Aviation Communications Centre (AARC) at Place de Ville, Ottawa, Ontario K1A 0N8, or 1-800-305-2059, or www.tc.gc.ca/civilaviation/communications/centre/address.asp

Canada

Inspect the affected engine for evidence of non-conformity, including the excessive use of crankcase split-line sealant to that recommended by the applicable overhaul manual, crankcase split-line fretting, excessive split-line oil leaks, loss of crankcase through-bolt torque and unapproved repairs. If necessary, restore the engine's conformity.

- (c) If the engine exhibits in-service difficulties (such as oil leaks or oil filter contamination) after the effective date of this directive, within five (5) hours air time or 30 days after the in-service difficulties, whichever occurs first:

Inspect the affected engine for evidence of non-conformity, including the excessive use of crankcase split-line sealant to that recommended by the applicable overhaul manual, crankcase split-line fretting, excessive split-line oil leaks, loss of crankcase through-bolt torque and unapproved repairs. If necessary, restore the engine's conformity.

3. For Twin Engine-Powered Aircraft:

- (a) Within the next 100 hours air time, or 12 months after the effective date of this directive, whichever occurs first:

Inspect the affected engine for evidence of non-conformity, including excessive use of crankcase split-line sealant to that recommended by the applicable overhaul manual, crankcase split-line fretting, excessive split-line oil leaks, loss of crankcase through-bolt torque and unapproved repairs. If necessary, restore the engine's conformity.

- (b) If the engine had exhibited in-service difficulties (such as oil leaks or oil filter contamination) prior to the effective date of this directive, within 10 hours air time or 60 days after the effective date of this directive, whichever occurs first:

Inspect the affected engine for evidence of non-conformity, including the excessive use of crankcase split-line sealant to that recommended by the applicable overhaul manual, crankcase split-line fretting, excessive split-line oil leaks, loss of crankcase through-bolt torque and unapproved repairs. If necessary, restore the engine's conformity.

- (c) If the engine exhibits in-service difficulties (such as oil leaks or oil filter contamination) after the effective date of this directive, within 10 hours air time or 60 days after the in-service difficulties, whichever occurs first:

Inspect the affected engine for evidence of non-conformity including excessive use of crankcase split-line sealant to that recommended by the applicable overhaul manual, crankcase split-line fretting, excessive split-line oil leaks, loss of crankcase through bolt-torque and unapproved repairs. If necessary, restore the engine's conformity.

4. No further action is required by this directive after the affected engine complies with the requirements of either paragraph 2 or paragraph 3 of this directive.

Authorization: For Minister of Transport



B. Goyaniuk
Chief, Continuing Airworthiness

Contact: Mr. Robin Lau, Continuing Airworthiness, Ottawa, 613 952-4461 or e-mail laur@tc.gc.ca or any Transport Canada Center.