



| | | |
|------------|-------------------|-----|
| No. | CF-2007-27R1 | 1/2 |
| Issue Date | 19 December- 2007 | |

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-2007-27R1

Subject: In-Flight Engine Shutdown

Effective: 31 December 2007

Revision: Supersedes Airworthiness Directive (AD) CF-2007-27 dated 16 November 2007

Applicability: Diamond Aircraft Industries Inc. model DA20-C1 aircraft serial numbers C0001 to C0473 powered by either Teledyne Continental Motors (TCM) IO-240-B13B or IO-240-B17B model engines.

Compliance: As indicated in the "Corrective Actions" section of this directive, unless already accomplished.

Background: There have been several incidents of in-flight shutdown (IFSD) of TCM IO-240-B engine equipped with altitude compensating fuel system on the Diamond DA20-C1 aircraft. One of the incidents resulted in a power off landing with the landing gear collapsing upon landing.

The probable root causes have been identified by Diamond Aircraft and Teledyne Continental Motor; Diamond Aircraft has issued Mandatory Service Bulletin (MSB) DAC1-73-05 Revision 1 dated 14 December 2007 and Aircraft Flight Manual DA202-C1 Rev. 23 dated 11 December 2007 to ensure continue safe operation of the affected aircraft.

Corrective Actions:

PART A: FUEL SYSTEM MAINTENANCE ACTIONS

1. For aircraft that have any fuel system components currently installed that have been in-service for less than 100 aircraft operating hours on the effective date of this directive: within the next 100 aircraft operating hours after the effective date of this directive or before 31 March 2008, whichever occurs first, accomplish the maintenance instructions in accordance with paragraph 10.2 of Diamond Aircraft MSB DAC1-73-05 Revision 1 or its later revision approved by the Chief, Continuing Airworthiness, Transport Canada Civil Aviation; and,
2. For aircraft that have experienced engine operating abnormalities, including unstable fuel system set up or inconsistent idle operation, in the last 100 aircraft operating hours from the effective date of this directive: within the next 100 aircraft operating hours after the effective date of this directive or before March 31, 2008, whichever occurs first, accomplish the maintenance instructions in accordance with paragraph 10.2 of Diamond Aircraft MSB DAC1-73-05 Rev.1 or its later revision approved by the Chief, Continuing Airworthiness, Transport Canada Civil Aviation; and,

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

3. For aircraft that have the mechanical fuel pump (part number 649368-49A1, 649368-52A1 or 649368-54A1) replaced since delivery: within the next 100 aircraft operating hours after the effective date of this directive or before 31 March 2008, whichever occurs first, accomplish the maintenance instructions in accordance with paragraphs 10.3 and 10.3.1 of Diamond Aircraft MSB DAC1-73-05 Revision 1 or its later revision approved by the Chief, Continuing Airworthiness, Transport Canada Civil Aviation; and,
4. For each aircraft specified in the applicability section of this directive: within the next 100 aircraft operating hours after the effective date of this directive or before 31 March 2008, whichever occurs first: perform the in-line filter housing orientation change in accordance with paragraph 10.4 of Diamond Aircraft MSB DAC1-73-05 Revision 1 or its later revision approved by the Chief, Continuing Airworthiness, Transport Canada Civil Aviation.

PART B: AIRCRAFT FLIGHT MANUAL (AFM) REVISION

After accomplishing all the required actions in PART A of this directive, accomplish the following before next flight:

1. Amend the DA20-C1 AFM by inserting Diamond DA20-C1 AFM DOC No. DA202-C1 Revision 23 dated 11 December 2007. Revision 23 of the AFM introduces the following limitations:
 - Mandatory Preflight Idle Mixture Rise Limitation: 50 RPM Minimum;
 - Minimum Ground Idle Speed Limitation: 975 RPM Minimum;
 - Removal of limitations for stalls and intentional side slips for aircraft equipped with the altitude compensating fuel system.
2. Insert a copy of this directive in each DA20-C1 AFM;
3. Advise all flight crews on the changes introduced through Revision 23 of the DA20-C1 AFM;
4. Remove installed placards P/N 22-1130-00-37, P/N 22-3911-00-36 and P/N 22-1130-00-33, and install placards P/N 22-1130-00-38, P/N 22-1130-00-39 and P/N 22-1130-00-40 in accordance with paragraphs 10.5 and 10.5.1 of Diamond Aircraft MSB DAC1-73-05 Rev.1 or its later revision approved by the Chief, Continuing Airworthiness, Transport Canada Civil Aviation.

Authorization: For Minister of Transport, Infrastructure and Communities

B. Goyaniuk
Chief, Continuing Airworthiness

Contact: Mr. Robin Lau, Continuing Airworthiness, Ottawa, telephone (613) 952-4461, facsimile (613) 996-9178 or e-mail laur@tc.gc.ca or any Transport Canada Centre.