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| No. | CF-2008-30 | 1/4 |
| Issue Date | 7 October 2008 | |

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-2008-30
- Subject:** Wing Anti-Ice Piccolo Ducts (Piccolo Tubes)
- Effective:** 3 November 2008
- Cancellation:** Supersedes and cancels Airworthiness Directive (AD) CF-2005-26R1, dated 21 September 2005.
- Applicability:** Bombardier Inc. Model CL-600-2B19, Serial Numbers (SN) 7003 through 7067, 7069 through 7990, 8000 through 8076, 8082, 8086, 8090 through 8092, 8096 and 8097
- Compliance:** As indicated below, unless already accomplished.
- Background:** There have been several cases of wing leading edge anti-ice piccolo duct failure reported on CL-600-2B19 (CRJ) aircraft. Upon investigation, it was determined that ducts manufactured since May 2000 are susceptible to cracking due to the process used to drill holes in the ducts. This cracking may cause air leakage, with a possible adverse effect on the anti-ice air distribution pattern and anti-ice capability, without annunciation to the flight crew.

The faulty ducts were installed on aircraft SN 7417 through 7990 and 8000 through 8055 in production, and as replacement parts on in service aircraft SN 7014, 7017, 7037, 7046, 7059, 7076, 7105, 7127, 7151, 7157, 7163, 7179, 7203, 7228, 7271, 7347, 7359, 7362, 7378 and 7381. Service Bulletin (SB) 601R-30-029, Revision B and AD CF-2005-26R1 previously covered the above aircraft serial numbers.

It has subsequently been determined that faulty ducts may also have been installed in a number of leading edge assemblies built as spares and whose current locations are not specifically known. As they may have been installed on any of the aircraft serial numbers in the Applicability section of this directive, checking of records and/or inspection, as specified in the Corrective Actions section, is now required for all applicable aircraft.

This directive, which supersedes and cancels AD CF-2005-26R1, mandates the amendment of the Airplane Flight Manual (AFM) procedures, in addition to checking the part numbers and serial numbers of installed and spare wing anti-ice piccolo ducts, as required, and inspecting, replacing or repairing them as necessary. Terminating action is also introduced.

Corrective Action: **Part I: AFM Change**

Within 14 days of the effective date of this directive:

- A. Amend the AFM by inserting Temporary Revision (TR) RJ/155-6, dated 17 September 2008, or later approved changes to this TR.
- B. Advise all flight crew of the changes introduced in the AFM TR.

Notes:

1. Commencing 1 December 2008, the applicable procedures in AFM TR RJ/155-6 (dated 17 September 2008, or later approved changes to this TR) affect all aircraft in the Applicability section of this directive, irrespective of flight hours, that have not had Bombardier Alert SB A601R-30-032, dated 18 September 2008 (or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada) incorporated.

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



2. Master Minimum Equipment List (MMEL) entry 30-12-03, which permits the wing anti-ice system to be inoperative with specific provisions, is not affected by this directive.

Part II: Records Check

- A. Applicable to CL-600-2B19 Aircraft, SN 7003 through 7013, 7015, 7016, 7018 through 7036, 7038 through 7045, 7047 through 7058, 7060 through 7067, 7069 through 7075, 7077 through 7104, 7106 through 7126, 7128 through 7150, 7152 through 7156, 7158 through 7162, 7164 through 7178, 7180 through 7202, 7204 through 7227, 7229 through 7270, 7272 through 7346, 7348 through 7358, 7360, 7361, 7363 through 7377, 7379, 7380, 7382 through 7416, 8056 through 8076, 8082, 8086, 8090 through 8092, 8096 and 8097:**

No later than 1 December 2008:

Check the aircraft maintenance records to determine if any anti-ice piccolo ducts or complete leading edge sections have been replaced since 1 May 2000:

1. If no anti-ice piccolo ducts or complete leading edge sections have been replaced since 1 May 2000, no further action is required. Compliance with this directive is complete.
2. If any anti-ice piccolo ducts or complete leading edge sections have been replaced since 1 May 2000, check the serial numbers of the replaced ducts:
 - a) If none of the piccolo duct serial numbers matches any of those in Part A, Paragraph 2.A., of Bombardier Alert SB A601R-30-032, dated 18 September 2008, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada, no further action is required. Compliance with this directive is complete.
 - b) If any of the piccolo duct serial numbers matches any of those in Part A, Paragraph 2.A., of Bombardier Alert SB A601R-30-032, dated 18 September 2008, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada, proceed to Part III of this directive.
3. If the records check is inconclusive, or if an inspection of the anti-ice piccolo ducts is preferred to a records check, proceed to Part III of this directive.

- B. Applicable to CL-600-2B19 Aircraft, SN 7014, 7017, 7037, 7046, 7059, 7076, 7105, 7127, 7151, 7157, 7163, 7179, 7203, 7228, 7271, 7347, 7359, 7362, 7378, 7381, 7417 through 7990 and 8000 through 8055:**

No later than 1 December 2008:

Check if the Accomplishment Instructions in Bombardier SB 601R-30-029 have previously been completed in accordance with the original issue, Revision A or Revision B of this SB:

1. If the Accomplishment Instructions in Bombardier SB 601R-30-029 have previously been completed in accordance with the original issue, Revision A or Revision B of this SB, check the aircraft maintenance records to determine whether or not:
 - a) any anti-ice piccolo ducts or complete leading edge sections have been replaced since SB accomplishment, and
 - b) any currently installed anti-ice piccolo ducts are subject to repeat inspection (see Note below), as previously required by AD CF-2005-26R1, Corrective Actions, Paragraph C:

Note: The inspection procedure required by AD CF-2005-26R1, Corrective Actions, Paragraph C, was previously detailed in paragraph 2.B. of SB 601R-30-029 (original issue, Revision A or Revision B). It is now detailed in Part B, paragraph 2.E of Alert SB A601R-30-032, dated 18 September 2008, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

- c) If no anti-ice piccolo ducts or complete leading edge sections have been replaced since completing the Accomplishment Instructions in the SB and no currently installed anti-ice piccolo ducts are subject to repeat inspection (see Note above), as previously required by AD CF-2005-26R1, no further action is required. Compliance with this directive is complete.
 - d) If any anti-ice piccolo ducts or complete leading edge sections have been replaced since completing the Accomplishment Instructions in the SB, check the serial numbers of the replaced ducts:
 - (i) If none of the piccolo duct serial numbers matches any of those in Part A, Paragraph 2.A., of Bombardier Alert SB A601R-30-032, dated 18 September 2008, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada, and no currently installed anti-ice piccolo ducts are subject to repeat inspection (see Note above), as previously required by AD CF-2005-26R1, no further action is required. Compliance with this directive is complete.
 - (ii) If any of the piccolo duct serial numbers match any of those in Part A, Paragraph 2.A., of Bombardier Alert SB A601R-30-032, dated 18 September 2008, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada, proceed to Part III of this directive.
 - e) If any currently installed anti-ice piccolo ducts are subject to repeat inspection (see Note above), as previously required by AD CF-2005-26R1, proceed to Part IV of this directive.
2. If the Accomplishment Instructions in Bombardier SB 601R-30-029 have not previously been completed in accordance with the original issue, Revision A or Revision B of this SB, check the serial numbers of all installed piccolo ducts:
- a) If none of the piccolo duct serial numbers matches any of those in Part A, Paragraph 2.A., of Bombardier Alert SB A601R-30-032, dated 18 September 2008, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada, no further action is required. Compliance with this directive is complete.
 - b) If any of the piccolo duct serial numbers matches any of those in Part A, Paragraph 2.A., of Bombardier Alert SB A601R-30-032, dated 18 September 2008, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada, proceed to Part III of this directive.
3. If the records check is inconclusive, or if an inspection of the anti-ice piccolo ducts is preferred to a records check, proceed to Part III of this directive.

Part III: Inspection of the Wing Anti-Ice Piccolo Ducts

Note: Part III is only applicable if required by Part II of this directive.

Within 30 days after the Records Check per Part II of this directive, but no later than 1 December 2008:

- A. Remove and inspect all of the installed piccolo ducts that have serial numbers listed in Part A, Paragraph 2.A. of Bombardier Alert SB A601R-30-032, dated 18 September 2008, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada. The inspection procedures are contained in Part B of the above-mentioned Alert SB.

- B. For each piccolo duct that is cracked, carry out one of the following actions before next flight:
- 1) Replace the cracked piccolo duct with a duct that has the same part number as listed in Part A, Paragraph 2.A., of the above-mentioned Alert SB, but which does not have a serial number listed in this Alert SB paragraph; or
 - 2) Replace the cracked piccolo duct with a duct with a different part number (as listed in the Illustrated Parts Catalog) than those listed in Part A, Paragraph 2.A., of the above-mentioned Alert SB; or
 - 3) Repair the cracked piccolo duct in accordance with an approved repair supplied by Bombardier.
- C. For any piccolo duct that is not cracked, it is permissible to reinstall it onto the same aircraft from which it was removed for inspection. However, it will then be subject to repetitive inspection in accordance with Part IV of this directive.

Part IV: Repeat Inspection of the Wing Anti-Ice Piccolo Ducts

Note: Part IV is only applicable if required by Part II, Paragraph B.1.(c) or by Part III, Paragraph C. of this directive.

At or before 2000 hours air time since the most recent inspection conducted in accordance with Bombardier SB 601R-30-029 (original issue, Revision A or Revision B), or in accordance with Bombardier Alert SB A601R-30-032, dated 18 September 2008 (or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada):

Repeat the inspection, in accordance with Part III of this directive, for all crack-free piccolo duct(s) that have been reinstalled on the aircraft following inspection.

Part V: Spare Parts

As of the effective date of this directive:

With the exemption of those piccolo ducts covered by Part III, Paragraph C, of this directive, no replacement/spare piccolo duct that has a serial number listed in Part A, Paragraph 2.A., of Bombardier Alert SB A601R-30-032, dated 18 September 2008, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada, is permitted to be installed on any aircraft.

Part VI: Terminating Action

Within 24 months of the effective date of this directive or, in the case of a repaired piccolo duct, prior to expiry of the limit specified in the approved repair documentation, whichever comes first:

Remove and discard all piccolo ducts that have serial numbers listed in Part A, Paragraph 2.A., of Bombardier Alert SB A601R-30-032, dated 18 September 2008, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

Authorization: For Minister of Transport, Infrastructure and Communities

Derek Ferguson
Acting Chief, Continuing Airworthiness

Contact: Mr. Richard Topham, Continuing Airworthiness, Ottawa, telephone 613-952-4428, facsimile 613-996-9178 or e-mail tophamr@tc.gc.ca or any Transport Canada Centre.