
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.

Bombardier (Canadair) CL-600 (Challenger) Series Aeroplanes**AD/CL-600/115****Air Driven Generator Strut****8/2009**

Applicability: Bombardier Inc. Model CL-600-2B16 (CL-604), Serial Numbers (S/N)s 5408 through 5665.

Requirement: 1. Identification Check:

Check the part number of the installed Air Driven Generator (ADG):

- a. If the part number (P/N) of the ADG is 604-90800-23 (Hamilton Sundstrand P/N 1711405), the strut wall thickness is within specification. No further action is required and compliance with this AD is complete.
- b. If the P/N of the ADG is 604-90800-1, -17 or -19 (Hamilton Sundstrand P/N in the 761339 series), check the ADG S/N and proceed as follows:
 - i. If the S/N of the ADG is 2000 or higher, the strut wall thickness is within specification and only re-identification is required. Proceed to Requirement 6 of this AD.
 - ii. If the S/N of the ADG is in the range 0101 through 1999 and the symbol 24-3 is marked in the S/N block of the identification plate, the strut wall thickness is within specification and only re-identification is required. Proceed to Requirement 6 of this AD.
 - iii. If the S/N of the ADG is in the range 0101 through 1999 and the symbol 24-3 is not marked in the S/N block of the identification plate, check the S/N of the strut and generator housing assembly (for location, see Figure 1, Sheet 1 of Hamilton Sundstrand Service Bulletin (SB) ERPS10AG-24-3) and proceed as follows:
 - A. If the S/N of the strut and generator housing assembly is in the range 0001 through 2503, a fluorescent penetrant inspection is required. Proceed to Requirement 2 of this AD.
 - B. If the S/N of the strut and generator housing assembly is 2504 or higher, the strut wall thickness is within specification and only re-identification is required. Proceed to Requirement 6 of this AD.

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Note 1: Requirement 1 may be conducted visually, which requires the ADG to be lowered, or by checking the maintenance records.

2. Initial Fluorescent Penetrant Inspection:

Inspect the ADG strut and replace the ADG, as necessary, in accordance with paragraphs 2.A., 2.C. and 2.D. of the Accomplishment Instructions in Bombardier Alert SB 604-24-017, Revision 1, dated 15 January 2007, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

Prior accomplishment of the fluorescent penetrant inspection, conducted in accordance with either the above referenced SB or one of the SBs listed in Table 1 of this AD, also meets the intent of Requirement 2 of this AD.

Table 1

Bombardier Alert SB 604-24-017.	Original issue	Dated 6 May 2005
Hamilton Sundstrand SB ERPS10AG-24-3	Original issue	Dated 14 April 2005
Hamilton Sundstrand SB ERPS10AG-24-3	Revision 1	Dated 19 April 2005
Hamilton Sundstrand SB ERPS10AG-24-3	Revision 2	Dated 14 November 2006
Hamilton Sundstrand SB ERPS10AG-24-3	Revision 3	Dated 12 March 2009

If the ADG is replaced by an ADG with P/N 604-90800-23 (Hamilton Sundstrand P/N 1711405), no further action is required and compliance with this AD is complete.

Note 2: Requirement 2 is only applicable if required by Requirement 1.b.iii.A. of this AD.

Note 3: For aircraft with S/Ns 5611 through 5665, Bombardier conducted the initial fluorescent penetrant inspection prior to aircraft delivery. As long as the ADG has not been replaced since aircraft delivery, this meets the intent of Requirement 2 of this AD.

Note 4: In Hamilton Sundstrand SB ERPS10AG-24-3, the fluorescent penetrant inspection is referred to as "Penetrant Check".

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3. Repeat Fluorescent Penetrant Inspections:

Inspect the ADG strut and replace the ADG, as necessary, in accordance with paragraphs 2.A., 2.C. and 2.D. of the Accomplishment Instructions in Bombardier Alert SB 604-24-017, Revision 1, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

If the ADG is replaced by an ADG with P/N 604-90800-23 (Hamilton Sundstrand P/N 1711405), no further action is required and compliance with this AD is complete.

Note 5: Requirement 3 is required for each ADG that has been inspected in accordance with Requirement 2 of this AD.

4. Inspection after an Unscheduled In-Flight ADG Deployment:

- a. Visually inspect the ADG strut and replace the ADG, as necessary, in accordance with paragraphs 2.A., 2.B. and 2.D. of the Accomplishment Instructions in Bombardier Alert SB-604-24-017, Revision 1, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

If the ADG is replaced by an ADG with P/N 604-90800-23 (Hamilton Sundstrand P/N 1711405), no further action is required and compliance with this AD is complete.

- b. Perform a fluorescent penetrant inspection of the ADG strut and replace the ADG, as necessary, in accordance with paragraphs 2.A., 2.C. and 2.D. of the Accomplishment Instructions in Bombardier Alert SB 604-24-017, Revision 1, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

If the ADG is replaced by an ADG with P/N 604-90800-23 (Hamilton Sundstrand P/N 1711405), no further action is required and compliance with this AD is complete.

Note 6: Requirement 4 is required, after an unscheduled in-flight ADG deployment, for each ADG that is specified in Requirement 1.b.iii.A. of this AD.

Note 7: The visual inspection specified in Requirement 4a above is not required if the fluorescent penetrant inspection, specified in Requirement 4b. is performed before further flight.

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5. Inspection after an Unscheduled On-Ground ADG Deployment:

Visually inspect the ADG strut and replace the ADG, as necessary, in accordance with paragraphs 2.A., 2.B. and 2.D. of the Accomplishment Instructions in Bombardier Alert SB 604-24-017, Revision 1, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

If the ADG is replaced by an ADG with P/N 604-90800-23 (Hamilton Sundstrand P/N 1711405), no further action is required and compliance with this AD is complete.

Note 8: Requirement 5 is required, after an unscheduled on-ground ADG deployment, for each ADG that is specified in Requirement 1.b.iii.A. of this AD.

6. Re-Identification:

Re-identify the ADG in accordance with the Accomplishment Instructions in Bombardier SB-604-24-019, dated 1 October 2007, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

Re-identification, conducted in accordance with Revision 2, dated 14 September 2007, Revision 3, dated 12 February 2008 or Revision 4, dated 30 April 2009 of Hamilton Sundstrand SB-ERPS10AG-24-4, also meets the intent of Requirement 6 of this AD.

Following re-identification, no further action is required and compliance with this AD is complete.

Note 9: Requirement 6 is only applicable if required by Requirement 1.b.i, 1.b.ii, or 1.b.iii.B. of this AD. The strut wall thickness of the ADGs specified in these Requirements is not below specification.

7. Replacement Parts:

Do not install a replacement ADG with P/N 604-90800-1, -17 or -19 (Hamilton Sundstrand P/N in the 761339 series) on any aircraft if the S/N of the ADG is in the range 0101 through 1999 strut and the S/N of the generator housing assembly is in the range 0001 through 2503.

However, it is permitted to install one of the above-specified ADGs back onto the same aircraft if it has been removed for non-related purposes, such as for maintenance or to gain access to other components, etc.

Note 10: The CL-604 Illustrated Parts Catalog also specifies that, for an ADG with a Hamilton Sundstrand P/N in the 761339 series, future procurement is to be an ADG with Hamilton Sundstrand P/N 1711405.

Note 11: Transport Canada AD CF-2009-24 dated 19 May 2009 refers.

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Compliance: For Requirement 1 - Within 400 flight hours (FH) or before the next scheduled ADG operational test, whichever comes first, after the effective date of this AD, unless already accomplished and the ADG has not subsequently been replaced.

For Requirement 2 - Within 400 FH or before the next scheduled ADG operational test, whichever comes first, after the effective date of this AD, unless already accomplished.

For Requirement 3 - Before further flight after each scheduled ADG operational test.

For Requirement 4a - Before further flight after each unscheduled in-flight ADG deployment.

For Requirement 4b - Within 72 hours or 10 hours air-time, whichever comes first, after each unscheduled in-flight ADG deployment.

For Requirement 5 - Before further flight following each unscheduled on-ground ADG deployment task.

For Requirement 6 - Within 400 FH or before the next scheduled operational test, whichever comes first, after the effective date of this AD.

For Requirement 7 - From the effective date of this AD.

This Airworthiness Directive becomes effective on 30 July 2009.

Background: Two cases of a crack on a "dry" ADG (Hamilton Sundstrand part number in the 761339 series), in the aft area of the strut and generator housing assembly, have been reported on CL-600-2B19 aircraft. The same P/N is also installed on CL-600-2B16 (CL-604) aircraft. Investigation determined that the crack was in an area of the strut where the wall thickness of the casting was below specification, due to a manufacturing anomaly in a specific batch of ADGs. Structural failure and departure of the ADG during deployment could possibly result in damage to the aircraft structure. If deployment were activated by a dual engine shutdown, ADG structural failure would also result in loss of hydraulics for the flight controls.

This AD gives instructions to check the P/N of the installed ADG and, for ADGs with a P/N in the 761339 series; the S/Ns of the ADG and the strut and generator housing assembly are also to be checked. If these serial numbers are within specified ranges initial and subsequent repeat fluorescent penetrant inspections of the ADG strut are required.

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AD/CL-600/115 (continued)

This AD also gives instructions to perform a fluorescent penetrant inspection after each unscheduled in-flight ADG deployment and a visual inspection after each unscheduled on-ground ADG deployment.

A handwritten signature in black ink, appearing to read 'James Coyne'.

James Coyne
Delegate of the Civil Aviation Safety Authority

19 June 2009