

**DEPARTMENT OF TRANSPORTATION****Federal Aviation Administration****14 CFR Part 39**

[Docket No. 2002–NM–126–AD]

RIN 2120–AA64

**Airworthiness Directives; Bombardier Model DHC–8–101, –102, –103, –106, –201, –202, –301, –311, and –315 Airplanes**

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice of proposed rulemaking (NPRM).

**SUMMARY:** This document proposes the adoption of a new airworthiness directive (AD) that is applicable to all Bombardier Model DHC–8–101, –102, –103, –106, –201, –202, –301, –311, and –315 airplanes. This proposal would require a detailed inspection of the wing leading edge de-icer boots to determine if they comply with the patch size and/or patch number limits in the critical zone as defined in the Aircraft Maintenance Manual; and corrective action, if necessary. This action is necessary to prevent reduced aerodynamic smoothness of the wing leading edge de-icer boots and possible reduced stall margin, which could result in a significant increase in stall speeds, leading to a possible stall prior to activation of the stall warning. This action is intended to address the identified unsafe condition.

**DATES:** Comments must be received by January 20, 2004.

**ADDRESSES:** Submit comments in triplicate to the Federal Aviation Administration (FAA), Transport Airplane Directorate, ANM–114, Attention: Rules Docket No. 2002–NM–126–AD, 1601 Lind Avenue, SW., Renton, Washington 98055–4056. Comments may be inspected at this location between 9 a.m. and 3 p.m., Monday through Friday, except Federal holidays. Comments may be submitted via fax to (425) 227–1232. Comments may also be sent via the Internet using the following address: *9-anm-nprmcomment@faa.gov*. Comments sent via fax or the Internet must contain “Docket No. 2002–NM–126–AD” in the subject line and need not be submitted

in triplicate. Comments sent via the Internet as attached electronic files must be formatted in Microsoft Word 97 or 2000 or ASCII text.

The service information referenced in the proposed rule may be obtained from Bombardier, Inc., Bombardier Regional Aircraft Division, 123 Garratt Boulevard, Downsview, Ontario M3K 1Y5, Canada. This information may be examined at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the FAA, New York Aircraft Certification Office, 10 Fifth Street, Third Floor, Valley Stream, New York.

**FOR FURTHER INFORMATION CONTACT:** Ezra Sasson, Aerospace Engineer, Systems and Flight Test Branch, ANE–172, FAA, New York Aircraft Certification Office, 10 Fifth Street, Third Floor, Valley Stream, New York 11581; telephone (516) 256–7520; fax (516) 568–2716.

**SUPPLEMENTARY INFORMATION:****Comments Invited**

Interested persons are invited to participate in the making of the proposed rule by submitting such written data, views, or arguments as they may desire. Communications shall identify the Rules Docket number and be submitted in triplicate to the address specified above. All communications received on or before the closing date for comments, specified above, will be considered before taking action on the proposed rule. The proposals contained in this action may be changed in light of the comments received.

Submit comments using the following format:

- Organize comments issue-by-issue. For example, discuss a request to change the compliance time and a request to change the service bulletin reference as two separate issues.
- For each issue, state what specific change to the proposed AD is being requested.
- Include justification (*e.g.*, reasons or data) for each request.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the proposed rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report summarizing each FAA-public contact

concerned with the substance of this proposal will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this action must submit a self-addressed, stamped postcard on which the following statement is made: “Comments to Docket Number 2002–NM–126–AD.” The postcard will be date stamped and returned to the commenter.

**Availability of NPRMs**

Any person may obtain a copy of this NPRM by submitting a request to the FAA, Transport Airplane Directorate, ANM–114, Attention: Rules Docket No. 2002–NM–126–AD, 1601 Lind Avenue, SW., Renton, Washington 98055–4056.

**Discussion**

Transport Canada Civil Aviation (TCCA), which is the airworthiness authority for Canada, notified the FAA that an unsafe condition may exist on certain Bombardier Model DHC–8–101, –102, –103, –106, –201, –202, –301, –311, and –315 airplanes. The manufacturer has revised the Aircraft Maintenance Manual (AMM) to tighten the limit on the size and number of repair patches on the de-icer boots in the wing critical zone to avoid any adverse effect to the aerodynamic stall margins. The new limits are based on the airplane aerodynamic characteristics and the smoothness of the boots. Reduced aerodynamic smoothness of the wing leading edge de-icer boots, and possible reduced stall margin, if not corrected, could result in a significant increase in stall speeds, leading to a possible stall prior to activation of the stall warning.

**Explanation of Relevant Service Information**

Bombardier has issued revisions to the AMM, listed in the following table, which describe procedures for a detailed inspection of the wing leading edge de-icer boots for damage and to determine if they comply with the patch size and/or patch number limits in the critical zone as defined in the AMM. The AMM revisions also describe procedures for replacement of non-compliant de-icer boots with new de-icer boots, if necessary.

TABLE—AMM REVISIONS

Model—	AMM—	Program support manual (PSM)—	Chapter—	Revision—	Dated—
DHC-8-101, -102, -103, and -106 .....	Series 100 .....	1-8-2	30-10-48	49	October 3, 2001.
DHC-8-201, and -202 .....	Series 200 .....	1-82-2	30-12-00	11	October 19, 2001.
DHC-8-301, -311, and -315 .....	Series 300 .....	1-83-2	30-10-48	.....	October 30, 2001.

<sup>1</sup> Temporary Revision (TR) 30-21.

Accomplishment of the actions specified in the applicable AMM revision is intended to adequately address the identified unsafe condition.

TCCA classified these actions as mandatory and issued Canadian airworthiness directive CF-2001-43, dated November 23, 2001, to ensure the continued airworthiness of these airplanes in Canada.

#### FAA's Conclusions

These airplane models are manufactured in Canada and are type certificated for operation in the United States under the provisions of section 21.29 of the Federal Aviation Regulations (14 CFR 21.29) and the applicable bilateral airworthiness agreement. Pursuant to this bilateral airworthiness agreement, the TCCA has kept us informed of the situation described above. We have examined the findings of the TCCA, reviewed all available information, and determined that AD action is necessary for products of this type design that are certificated for operation in the United States.

#### Explanation of Requirements of Proposed Rule

Since an unsafe condition has been identified that is likely to exist or develop on other airplanes of the same type design registered in the United States, the proposed AD would require accomplishment of the actions specified in the Canadian airworthiness directive described previously, and corrective actions, if necessary. The corrective actions involve the temporary revision of the Aircraft Flight Manual (AFM) to specify operating limitations, and eventual replacement of the de-icer boots with new boots.

#### Cost Impact

We estimate that 200 airplanes of U.S. registry would be affected by this proposed AD, that it would take

approximately 2 work hours per airplane to accomplish the proposed inspection, and that the average labor rate is \$65 per work hour. Based on these figures, the cost impact of the proposed AD on U.S. operators is estimated to be \$26,000, or \$130 per airplane.

The cost impact figure discussed above is based on assumptions that no operator has yet accomplished any of the proposed requirements of this AD action, and that no operator would accomplish those actions in the future if this AD were not adopted. The cost impact figures discussed in AD rulemaking actions represent only the time necessary to perform the specific actions actually required by the AD. These figures typically do not include incidental costs, such as the time required to gain access and close up, planning time, or time necessitated by other administrative actions.

#### Regulatory Impact

The regulations proposed herein would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, it is determined that this proposal would not have federalism implications under Executive Order 13132.

For the reasons discussed above, I certify that this proposed regulation (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) if promulgated, will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A copy of the draft regulatory evaluation prepared for this

action is contained in the Rules Docket. A copy of it may be obtained by contacting the Rules Docket at the location provided under the caption **ADDRESSES**.

#### List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Safety.

#### The Proposed Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration proposes to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

#### PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

**Authority:** 49 U.S.C. 106(g), 40113, 44701.

#### § 39.13 [Amended]

2. Section 39.13 is amended by adding the following new airworthiness directive:

**Bombardier, Inc.** (Formerly de Havilland, Inc.): Docket 2002-NM-126-AD.

*Applicability:* All Model DHC-8-101, -102, -103, -106, -201, -202, -301, -311, and -315 airplanes; certificated in any category.

*Compliance:* Required as indicated, unless accomplished previously.

To prevent reduced aerodynamic smoothness of the wing leading edge de-icer boots and possible reduced stall margin, which could result in a significant increase in stall speeds, leading to a possible stall prior to activation of the stall warning; accomplish the following:

#### Maintenance Manual Reference

(a) The term "Aircraft Maintenance Manual," or the acronym "AMM," as used in this AD, means the chapter of the Bombardier Aircraft Maintenance Manuals listed in Table 1 of this AD, as applicable:

TABLE 1.—AMM REFERENCE

Model—	AMM—	Program support manual (PSM)—	Chapter—	Revision—	Dated—
DHC-8-101, -102, -103, and -106 .....	Series 100 .....	1-8-2	30-10-48	49	October 3, 2001.
DHC-8-201, and -202 .....	Series 200 .....	1-82-2	30-12-00	11	October 19, 2001.
DHC-8-301, -311, and -315 .....	Series 300 .....	1-83-2	30-10-48	( <sup>1</sup> )	October 30, 2001.

<sup>1</sup> Temporary Revision (TR) 30-12.

**Detailed Inspection**

(b) Within 60 days after the effective date of this AD: Perform a detailed inspection of the wing leading edge de-icer boots to determine if the de-icer boots comply with the patch size and/or patch number limits in the critical zone as defined in the AMM.

**Note 1:** For the purposes of this AD, a detailed inspection is defined as: “An intensive visual examination of a specific structural area, system, installation, or assembly to detect damage, failure, or irregularity. Available lighting is normally supplemented with a direct source of good lighting at intensity deemed appropriate by the inspector. Inspection aids such as mirror, magnifying lenses, etc., may be used. Surface

cleaning and elaborate access procedures may be required.”

(1) If all de-icer boots are within the patch size and/or patch number limits in the critical zone as defined in the AMM, no further action is required by this paragraph.

(2) If any de-icer boot exceeds the patch size and/or patch number limits in the critical zone as defined in the AMM, accomplish the corrective actions required by paragraph (c) of this AD.

**Corrective Actions**

(c) For de-icer boots that require the corrective actions described in paragraph (b)(2) of this AD, accomplish the following corrective actions:

(1) Before further flight, insert the contents of Table 2 of this AD in the Limitations Section of the Aircraft Flight Manual (AFM) and advise flight crews to comply with the performance penalties detailed in Table 2 of this AD.

(2) Within 24 months after the effective date of this AD, replace all wing de-icer boots that exceed the patch size and/or patch number limits in the critical zone as defined in the AMM, with new de-icer boots, in accordance with the applicable AMM referenced in Table 1 of this AD. Remove the contents of Table 2 of this AD from the AFM, and terminate the requirements to comply with the performance penalties after all replacements are accomplished.

TABLE 2.—PERFORMANCE PENALTIES

AFM sections	AFM limits with de-ice boot patch limits exceeded <b>Note:</b> Flap settings as applicable to aircraft model
T/O Speed: Sub-Section 5-2 V <sub>1</sub> , V <sub>r</sub> & V <sub>2</sub> .....	<i>Add:</i> 5 kt (flap 0°) 5 kt (flap 5°) 5 kt (flap 10°) 5 kt (flap 15°)
Final T/O Climb Speed .....	<i>Add:</i> 5 kt (flap 0°)
T/O WAT Limit: Sub-Section 5-3 <b>Note:</b> Weight reduction not required when limited by maximum structural weight.	<i>Subtract:</i> 18 kg, 400 lb. (flap 0°) 90 kg, 200 lb. (flap 5°) No change (flap 10°) No change (flap 15°)
T/O Climb: Sub-Section 5-4 1st Seg. Gradient .....	<i>Subtract:</i> 0.008 (flap 0°) 0.004 (flap 5°) 0.004 (flap 10°) 0.004 (flap 15°)
2nd Seg. Gradient .....	<i>Subtract:</i> 0.005 (flap 0°) 0.002 (flap 5°) 0.002 (flap 10°) 0.002 (flap 15°)
Final Seg. Gradient .....	<i>Subtract:</i> 0.009 (flap 0°)
T/O Field Length: Sub-Section 5-5	

TABLE 2.—PERFORMANCE PENALTIES—Continued

AFM sections	AFM limits with de-ice boot patch limits exceeded <b>Note:</b> Flap settings as applicable to aircraft model
TOR, TOD & ASD .....	<i>Add:</i> 16% (flap 0°) 16% (flap 5°) 16% (flap 10°) 16% (flap 15°)
Net T/O Flight Path: Sub-Section 5–6 Ref Gradient .....	<i>Subtract</i> 0.005 (flap 0°) 0.002 (flap 5°) 0.002 (flap 10°) 0.002 (flap 15°)
4th Seg. Net Gradient .....	<i>Subtract:</i> 0.012 (flap 0°)
Flap Retraction Initiation Speed .....	<i>Add:</i> 5 kt (flap 5°) 5 kt (flap 10°) 5 kt (flap 15°)
Enroute Climb Data: Sub-Section 5–7 Enroute Climb Speed .....	<i>Add:</i> 5 kt
Net Climb Gradient .....	<i>Subtract:</i> 0.004
OEI-Climb Ceiling .....	<i>Subtract:</i> 1,200 ft
Landing Speed: Sub-Section 5–8 Approach, Go-around & Vref .....	<i>Add:</i> 5 kt (flap 5°) 5 kt (flap 10°) 5 kt (flap 15°) 5 kt (flap 35°)
Landing WAT Limit: Sub-Section 5–9 <b>Note:</b> Weight reduction not required when limited by maximum structural weight.	<i>Subtract:</i> 860 kg, 1900 lb. (flap 10°) 225 kg, 500 lb. (flap 15°) 180 kg, 400 lb. (flap 35°)
Landing Climb Data: Sub-Section 5–10 Approach Gross Climb Gradient .....	<i>Subtract:</i> 0.010 (flap 5°) 0.003 (flap 10°) 0.002 (flap 15°)
Balked Landing Gross Climb Gradient .....	<i>Subtract:</i> 0.035 (flap 10°) 0.017 (flap 15°) 0.016 (flap 35°)
Landing Field Length: Sub-Section 5–11	<i>Add:</i> 23% (flap 10°) 16% (flap 15°) 10% (flap 35°)
Brake Energy: Sub-Section 5–12 Accel/Stop B.E. ....	<i>Add</i> 7% (flap 0°) 7% (flap 5°) 7% (flap 10°) 7% (flap 15°)
Landing B.E. ....	<i>Add:</i> 30% (flap 10°) 20% (flap 15°) 8% (flap 35°)

**Parts Installation**

(d) As of the effective date of this AD, no person may install—on any airplane—a de-icer boot patch in the critical zone of the wing de-icer boots that exceeds the AMM limits referenced in paragraph (b) of this AD.

**Alternative Methods of Compliance**

(e) In accordance with 14 CFR 39.19, the Manager, New York Aircraft Certification Office (ACO), FAA, is authorized to approve alternative methods of compliance for this AD.

**Note 2:** The subject of this AD is addressed in Canadian airworthiness directive CF-2001-43, dated November 23, 2001.

Issued in Renton, Washington, on December 10, 2003.

**Kevin Mullin,**

*Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.*

[FR Doc. 03-31183 Filed 12-17-03; 8:45 am]

**BILLING CODE 4910-13-P**

**DEPARTMENT OF TRANSPORTATION****Federal Aviation Administration****14 CFR Part 39**

[Docket No. 2003-NM-80-AD]

RIN 2120-AA64

**Airworthiness Directives; Airbus Model A300 B4-600 and A300 C4-600 Series Airplanes**

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** This document proposes the adoption of a new airworthiness directive (AD) that is applicable to certain Airbus Model A300 B4-600 and A300 C4-600 series airplanes. This proposal would require a one-time inspection to detect damage of the pump diffuser guide slots (bayonet) of the center tank fuel pumps, the pump diffuser housings, and the pump canisters; repetitive inspections to detect damage of the fuel pumps and the fuel pump canisters; and corrective action, if necessary. This action is necessary to detect and correct damage of the center tank fuel pumps and fuel pump canisters, which could result in separation of a pump from its electrical motor housing, loss of flame trap capability, and a possible fuel ignition source in the center fuel tank. This action is intended to address the identified unsafe condition.

**DATES:** Comments must be received by January 20, 2004.

**ADDRESSES:** Submit comments in triplicate to the Federal Aviation

Administration (FAA), Transport Airplane Directorate, ANM-114, Attention: Rules Docket No. 2003-NM-80-AD, 1601 Lind Avenue, SW., Renton, Washington 98055-4056. Comments may be inspected at this location between 9 a.m. and 3 p.m., Monday through Friday, except Federal holidays. Comments may be submitted via fax to (425) 227-1232. Comments may also be sent via the Internet using the following address: [9-anm-nprmcomment@faa.gov](mailto:9-anm-nprmcomment@faa.gov). Comments sent via fax or the Internet must contain "Docket No. 2003-NM-80-AD" in the subject line and need not be submitted in triplicate. Comments sent via the Internet as attached electronic files must be formatted in Microsoft Word 97 or 2000 or ASCII text.

The service information referenced in the proposed rule may be obtained from Airbus Industrie, 1 Rond Point Maurice Bellonte, 31707 Blagnac Cedex, France. This information may be examined at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington.

**FOR FURTHER INFORMATION CONTACT:** Tim Backman, Aerospace Engineer, International Branch, ANM-116, FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-2797; fax (425) 227-1149.

**SUPPLEMENTARY INFORMATION:****Comments Invited**

Interested persons are invited to participate in the making of the proposed rule by submitting such written data, views, or arguments as they may desire. Communications shall identify the Rules Docket number and be submitted in triplicate to the address specified above. All communications received on or before the closing date for comments, specified above, will be considered before taking action on the proposed rule. The proposals contained in this action may be changed in light of the comments received.

Submit comments using the following format:

- Organize comments issue-by-issue. For example, discuss a request to change the compliance time and a request to change the service bulletin reference as two separate issues.

- For each issue, state what specific change to the proposed AD is being requested.

- Include justification (*e.g.*, reasons or data) for each request.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of

the proposed rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report summarizing each FAA-public contact concerned with the substance of this proposal will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this action must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 2003-NM-80-AD." The postcard will be date stamped and returned to the commenter.

**Availability of NPRMs**

Any person may obtain a copy of this NPRM by submitting a request to the FAA, Transport Airplane Directorate, ANM-114, Attention: Rules Docket No. 2003-NM-80-AD, 1601 Lind Avenue, SW., Renton, Washington 98055-4056.

**Discussion**

The Direction Générale de l'Aviation Civile (DGAC), which is the airworthiness authority for France, notified the FAA that an unsafe condition may exist on certain Airbus Model A300 B4-600 and A300 C4-600 series airplanes. The DGAC previously advised the FAA that damaged center tank fuel pumps and pump canisters had been found on Airbus Model A300 B4-600R and A300 F4-600R series airplanes. Investigation revealed that the pump canister legs had cracked due to fatigue. In one instance, this led to the separation of the upper part of the pump canister from its lower part attached at the center tank bottom wall. Fatigue cracking was also found at the base of the fuel pump diffuser housing. The DGAC has since advised the FAA that fuel tank pump canisters have also been found broken on Model A300 B4-600 and A300 C4-600 series airplanes, which are consequently subject to the unsafe condition identified in this proposed AD: separation of a fuel pump from its electrical motor housing, loss of flame trap capability, and a possible fuel ignition source in the center fuel tank.

**Related Rulemaking**

On December 23, 1999, the FAA issued AD 99-27-07, amendment 39-11488 (65 FR 213, January 4, 2000), for all Model A300 B4-600R and A300 F4-600R series airplanes. That AD requires a one-time inspection for damage of the center tank fuel pumps and fuel pump canisters, repetitive inspections of the fuel pumps and fuel pump canisters, and replacement of damaged parts with