

**FEDERAL AVIATION ADMINISTRATION  
AIRWORTHINESS DIRECTIVES**

**LARGE AIRCRAFT  
BIWEEKLY 2014-11**

*5/19/2014 - 6/1/2014*



Federal Aviation Administration  
Engineering Procedures Office, AIR-110  
P.O. Box 25082  
Oklahoma City, OK 73125-0460

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# LARGE AIRCRAFT

AD No.	Information	Manufacturer	Applicability
Information Key: E - Emergency; COR - Correction; S - Supersedes			
<b>Biweekly 2014-01</b>			
2013-25-04		Embraer S.A.	ERJ 170-100 LR, -100 STD, -100 SE., -100 SU, ERJ 170-200 LR, -200 SU, -200 STD, ERJ 190-100 STD, -100 LR, -100 ECJ, -100 IGW, ERJ 190-200 STD, -200 LR, and -200 IGW
2013-25-06		Airbus	A318-111, -112, -121, -122, A319-111, -112, -113, -114, -115, -131, -132, -133, A320-111, -211, -212, -214, -231, -232, -233, A321-111, -112, -131, -211, -212, -213, -231, and -232
2013-26-01		CFM International S.A.	CFM56-3 series and CFM56-7B series turbofan engines
2013-26-02		Bombardier, Inc.	CL-600-2C10 (Regional Jet Series 700, 701, & 702), CL-600-2D15 (Regional Jet Series 705) and CL-600-2D24 (Regional Jet Series 900)
2013-26-03	S 2011-24-09	Airbus	A340-211, A340-212, A340-213, A340-311, A340-312, A340-313, A340-541, and A340-642
2013-26-04		The Boeing Company	747-400, -400D, and -400F series
2013-26-06	S 2010-19-01	Rolls-Royce Corporation	AE 3007A, A1, A1/1, A1/2, A1/3, A1P, A1E, and A3 turbofan engines
2013-26-07		Airbus	A318-111, -112, -121, -122, A319-111, -112, -113, -114, -115, -131, -132, -133, A320-111, -211, -212, -214, -231, -232, -233, A321-111, -112, -131, -211, -212, -213, -231, and -232
2013-26-08		The Boeing Company	737-600, -700, -700C, -800, -900, and -900ER series
2013-26-10		Rolls-Royce plc	RB211-524G2-19, RB211-524G3-19, RB211-524H-36, and RB211-524H2-19 turbofan engines
2013-26-12	S 2009-14-02	The Boeing Company	747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-200F, 747-300, 747-400, 747-400D, 747-400F, 747SR, and 747SP series
<b>Biweekly 2014-02</b>			
There were no AD's published in this Large Bi-weekly period			
<b>Biweekly 2014-03</b>			
2013-24-04	S 2003-19-11	Learjet Inc.	60
2013-25-03	S 2000-17-05	The Boeing Company	767-200, -300, -300F, and -400ER series
	S 2001-04-09		
2014-01-04		Bae Systems (Operations) Limited	BAe 146-100A, -200A, -300A, Avro 146-RJ70A, 146-RJ85A, and 146-RJ100A
2014-01-05		The Boeing Company	737-100, -200, -200C, -300, -400, and -500 series
2014-02-01	S 2011-03-13	Bombardier, Inc.	CL-600-2C10 (Regional Jet Series 700, 701, & 702), CL-600-2D15 (Regional Jet Series 705), and CL-600-2D24 (Regional Jet Series 900)
<b>Biweekly 2014-04</b>			
2014-03-07	S 2009-26-16	The Boeing Company	MD-11 and MD-11F
2014-03-08		Airbus	A318-111, -112, -121, -122, A319-111, -112, -113, -114, -115, -131, -132, -133, A320-111, -211, -212, -214, -231, -232, -233, A321-111, -112, -131, -211, -212, -213, -231, and -232
2014-03-09		ATR-GIE Avions de Transport Régional	ATR42-200, -300, -320, -500, ATR72-101, -201, -102, -202, -211, -212, and -212A
2014-03-14		Airbus	A330-201, -202, -203, -223, -243, -301, -302, -303, -321, -322, -323, -341, -342, -343, A340-211, -212, -213, -311, -312, -313, -541, and -642
2014-03-16		Rolls-Royce Deutschland Ltd & Co. KG	Tay 620-15, 650-15, and 651-54 turbofan engines
2014-03-17		Bombardier, Inc.	CL-600-1A11 (CL-600), CL-600-2A12 (CL-601), CL-600-2B16 (CL-601-3A, CL-601-3R, & CL-604 Variants)
<b>Biweekly 2014-05</b>			
2014-01-03		Saab AB, Saab Aerosystems	340A (SAAB/SF340A) and SAAB 340B airplanes
2014-03-04		Bombardier, Inc.	DHC-8-400, -401, and -402 airplanes
2014-03-05		Bombardier, Inc.	BD-700-1A10 airplanes
2014-03-06		Boeing	737-100, -200, -200C, -300, -400, and -500 series airplanes

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2014-03-12	S 2002-23-19	Dassault Aviation	FALCON 2000 airplanes
2014-03-13		Fokker Services B.V.	F.28 Mark 0070 and 0100 airplanes
2014-03-15	S 2008-14-16	328 Support Services GmbH	328-100, 328-300 airplanes
2014-03-19		Boeing	737-600, -700, -800, -900, and -900ER series airplanes
2014-03-21		Boeing	727-200 and 727-200F series airplanes
2014-04-05		Boeing	737-100, -200, -200C, -300, -400, and -500 series airplanes
2014-04-08		Bombardier, Inc.	CL-600-2B19 (Regional Jet Series 100 & 440) airplanes
2014-05-02	S 2002-10-11	Boeing	737-100, -200, -200C, -300, -400, and -500 series airplanes
2014-05-03		Boeing	777-200, -200LR, -300, -300ER, and -777F series airplanes
2014-05-05		Boeing	777-200, -200LR, -300, -300ER, and 777F series airplanes
<b>Biweekly 2014-06</b>			
2014-05-09	S 2012-12-08	Boeing	777-200 and -300 series airplanes
2014-05-12	S 2010-15-08	Boeing	737-100, -200, -200C, -300, -400, and -500 series airplanes
2014-05-13	S 2004-12-07	Boeing	757-200, -200PF, and -200CB series airplanes
2014-05-16		Boeing	747-200B, 747-300, 747-400, 747-400D, and 747-400F series airplanes; 767-200, -300, -300F, and -400ER series airplanes
2014-05-18		Bombardier	DHC-8-400, -401, and -402 airplanes
2014-05-19		Boeing	747-200B, 747-200F, 747-300, and 747SP series airplanes; 747-400 and 747-400F series airplanes; 767-300 series airplanes
2014-05-20		Boeing	757-200, -200PF, -200CB, and -300 series airplanes
2014-05-21	S 2008-11-04	Boeing	737-100, -200, -200C, -300, -400, and -500 series airplanes
2014-05-22		Boeing	717-200 airplanes
2014-05-23		Bombardier	BD-100-1A10 (Challenger 300) airplanes
2014-05-24	S 84-19-01	Boeing	747-100, 747-200B, and 747-200F series airplanes
2014-05-25		Rolls-Royce plc	RB211-Trent 970-84, RB211-Trent 970B-84, RB211-Trent 972-84, RB211-Trent 972B-84, RB211-Trent 977-84, RB211-Trent 977B-84, and RB211-Trent 980-84 turbofan engines
2014-05-30	S 2013-07-07	Boeing	737-600, -700, -700C, -800, -900, and -900ER series airplanes
2014-06-02		Boeing	747-400 series airplanes
<b>Biweekly 2014-07</b>			
2013-26-14	S 2008-08-04	Airbus	A318, A319, A320, A321 airplanes
2014-04-09		Boeing	727, 727C, 727-100, 727-100C, 727-200, and 727-200F series airplanes
2014-04-10		Airbus	A330, A340 airplanes
2014-05-14		Boeing	727, 727C, 727-100, 727-100C, 727-200, and 727-200F series airplanes
2014-05-17		Bombardier	DHC-8-102, -103, -106, -201, -202, -301, -311, and -315 airplanes
2014-05-27		Rockwell Collins	Mode S transponders
2014-05-28		Bombardier	DHC-8-400, -401, and -402 airplanes
2014-05-31	S 2008-08-25	Boeing	747-400F, 747-400 series airplanes
2014-05-32		Pratt & Whitney	PW2037, PW2037D, PW2037M, PW2040, PW2040D, PW2043, PW2143, PW2240, PW2337, PW2643, and F117-PW-100 turbofan engines
2014-06-04		Boeing	747-8 and 747-8F series airplanes
2014-06-05	S 2007-03-02	Rolls-Royce Deutschland	Tay 620-15, Tay 650-15 and Tay 651-54 turbofan engines
2014-06-08		Bombardier	DHC-8-101, -102, -103, -106, -201, -202, -301, -311, and -315 airplanes
2014-06-09	S 2009-18-18	ATR-GIE Avions de Transport Régional	ATR42-200, -300, -320, and -500 airplanes; ATR72-101, -201, -102, -202, -211, -212, and -212A airplanes
2014-06-10	S 2014-06-10	Airbus	A330, A340 airplanes
2014-07-02		Rolls-Royce Deutschland	BR700-715A1-30, BR700-715B1-30, and BR700-715C1-30 turbofan engines

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<b>Biweekly 2014-08</b>			
2014-05-32	COR	Pratt & Whitney	PW2037, PW2037D, PW2037M, PW2040, PW2040D, PW2043, PW2143, PW2240, PW2337, PW2643, and F117-PW-100 turbofan engines
2014-07-03		Fokker Services B.V.	F.28 Mark 0070 and 0100
2014-07-05		Fokker Services B.V.	F.28 Mark 0070 and 0100
2014-08-02		Airbus	A300 B4-601, B4-603, B4-620, B4-622, A300 B4-605R and B4-622R
2014-08-03		Bombardier, Inc.	CL-600-2C10 (Regional Jet Series 700, 701, & 702), CL-600-2D15 (Regional Jet Series 705), CL-600-2D24 (Regional Jet Series 900), and CL-600-2E25 (Regional Jet Series 1000)
2014-08-05		Rolls-Royce Deutschland Ltd & Co KG	BR700-715A1-30, BR700-715B1-30, and BR700-715C1-30 turbofan engines
<b>Biweekly 2014-09</b>			
2013-25-02	S 2000-11-06	The Boeing Company	767-200, -300, -300F, and -400ER series
2014-07-01		The Boeing Company	747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-200F, 747-300, 747-400, 747-400D, 747-400F, 747SR, and 747SP series
2014-08-01	S 2014-03-08	Airbus	A318-111, -112, -121, -122, A319-111, -112, -113, -114, -115, -131, -132, -133, A320-111, -211, -212, -214, -231, -232, -233, A321-111, -112, -131, -211, -212, -213, -231, and -232
2014-08-04	S 2012-03-04	Airbus	A310-203, -204, -221, -222, -304, -322, -324, and -325
2014-08-08		The Boeing Company	737-200, -200C, -300, -400, and -500 series
2014-08-09		The Boeing Company	767-200, -300, -300F, and -400ER series
2014-08-11	S 2009-24-07	The Boeing Company	737-600, -700, -700C, -800 and -900 series
2014-09-05		Airbus	A330-201, A330-202, A330-203, A330-223, A330-243, A330-301, A330-302, A330-303, A330-321, A330-322, A330-323, A330-341, A330-342, A330-343, A340-211, A340-212, A340-213, A340-311, A340-312, and A340-313
2014-09-06		The Boeing Company	777F series
<b>Biweekly 2014-10</b>			
2014-09-08	S 2007-16-19	The Boeing Company	747-200B, 747-300, and 747-400 series
2014-09-10		The Boeing Company	767-200, -300, -300F, and -400ER series
<b>Biweekly 2014-11</b>			
2014-09-07		The Boeing Company	757-200, -200PF, -200CB, and -300 series
2014-09-09		The Boeing Company	777-200, -200LR, -300, -300ER, and 777F series



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**2014-09-07 The Boeing Company:** Amendment 39-17842; Docket No. FAA-2012-1103; Directorate Identifier 2012-NM-131-AD.

**(a) Effective Date**

This AD is effective July 1, 2014.

**(b) Affected ADs**

None.

**(c) Applicability**

(1) This AD applies to The Boeing Company Model 757-200, -200PF, -200CB, and -300 series airplanes, certificated in any category, equipped with Rolls-Royce RB211-535E4, -535E4-B, and -535E4-C engines; or with Rolls-Royce RB211-535E4, -535E4-B, and -535E4-C engines that have air intake cowls that were modified by Bombardier Aerospace Supplemental Type Certificate (STC) ST02102NY

([http://rgl.faa.gov/Regulatory\\_and\\_Guidance\\_Library/rgstc.nsf/0/256325188c3b1f2f8625705f004dd977/\\$FILE/ST02102NY.pdf](http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgstc.nsf/0/256325188c3b1f2f8625705f004dd977/$FILE/ST02102NY.pdf)), commonly known as 535E4X cowls.

(2) Installation of supplemental type certificate (STC) ST01518SE

([http://rgl.faa.gov/Regulatory\\_and\\_Guidance\\_Library/rgstc.nsf/0/48e13cdfbbc32cf4862576a4005d308b/\\$FILE/ST01518SE.pdf](http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgstc.nsf/0/48e13cdfbbc32cf4862576a4005d308b/$FILE/ST01518SE.pdf)) does not affect the ability to accomplish the actions required by this AD. Therefore, for airplanes on which STC ST01518SE is installed, a "change in product" alternative method of compliance (AMOC) approval request is not necessary to comply with the requirements of 14 CFR 39.17.

**(d) Subject**

Air Transport Association (ATA) of America Code 71, Powerplant.

**(e) Unsafe Condition**

This AD was prompted by reports of cracking of the forward bulkhead web, web stiffeners, attachment angles, and thermal anti-ice (TAI) spray ring assemblies of the engine air intake cowl. We are issuing this AD to prevent the failure of air intake cowl components due to cracking, which could result in the air intake cowl separating from the engine and striking critical airplane control surfaces that could result in a loss of airplane control; severe engine damage, and loss of thrust; or large parts striking a person or property on the ground.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Replacement of Air Intake Cowl Forward Bulkhead Assemblies Previously Disassembled**

For airplanes on which the air intake cowls were replaced before the effective date of this AD using a kit or parts identified in paragraph (g)(1), (g)(2), or (g)(3) of this AD: Within 144 months since replacement of the air intake cowl, or according to the applicable time specified in paragraphs (h)(1) through (h)(12) of this AD, whichever is later, replace the air intake cowl with a cowl which has had the forward bulkhead assembly, TAI spray ring assembly, and associated attachment fittings of the air intake cowl replaced using a kit or new parts, in accordance with the Accomplishment Instructions of Bombardier Alert Non-Modification Service Bulletin RB211-E4-A1003, Revision 3, dated February 4, 2014 (for engines with air intake cowls modified by Bombardier Aerospace STC ST02102NY

([http://rgl.faa.gov/Regulatory\\_and\\_Guidance\\_Library/rgstc.nsf/0/256325188c3b1f2f8625705f004dd977/\\$FILE/ST02102NY.pdf](http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgstc.nsf/0/256325188c3b1f2f8625705f004dd977/$FILE/ST02102NY.pdf), commonly known as a 535E4X cowls); or Rolls-Royce Alert Non-Modification Service Bulletin RB.211-71-AG698, excluding Appendix 1 and including Appendices 2, 3, and 4, Revision 2, dated June 20, 2013 (for engines having Dyna-Rohr or Bombardier standard air intake cowls). Repeat the replacement thereafter at intervals not to exceed 144 months.

(1) RB211-E4A1003KIT, or all the parts listed in Appendix 3 of Bombardier Alert Non-Modification Service Bulletin RB211-E4-A1003, Revision 3, dated February 4, 2014 (for engines with air intake cowls modified by Bombardier Aerospace STC ST02102NY ([http://rgl.faa.gov/Regulatory\\_and\\_Guidance\\_Library/rgstc.nsf/0/256325188c3b1f2f8625705f004dd977/\\$FILE/ST02102NY.pdf](http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgstc.nsf/0/256325188c3b1f2f8625705f004dd977/$FILE/ST02102NY.pdf), commonly known as a 535E4X cowls).

(2) RB211-71-AG698-E4KIT, or all the parts listed in Appendix 3 of Rolls-Royce Alert Non-Modification Service Bulletin RB.211-71-AG698, Revision 2, dated June 20, 2013 (for engines with Dyna-Rohr standard air intake cowls).

(3) RB211-71-AG698-E4BKIT, or all the parts listed in Appendix 4 of Rolls-Royce Alert Non-Modification Service Bulletin RB.211-71-AG698, Revision 2, dated June 20, 2013 (for engines with Bombardier standard air intake cowls).

**(h) Replacement of In-Service Air Intake Cowl Complete Forward Bulkhead Assemblies**

For airplanes other than those identified in paragraph (g) of this AD: At the applicable time specified in paragraphs (h)(1) through (h)(12) of this AD, replace the air intake cowl with a cowl which has had the forward bulkhead assembly, TAI spray ring assembly, and associated attachment fittings of the air intake cowl replaced using a kit or new parts, in accordance with the Accomplishment Instructions of Bombardier Alert Non-Modification Service Bulletin RB211-E4-A1003, Revision 3, dated February 4, 2014 (for engines with air intake cowls modified by Bombardier Aerospace STC ST02102NY

([http://rgl.faa.gov/Regulatory\\_and\\_Guidance\\_Library/rgstc.nsf/0/256325188c3b1f2f8625705f004dd977/\\$FILE/ST02102NY.pdf](http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgstc.nsf/0/256325188c3b1f2f8625705f004dd977/$FILE/ST02102NY.pdf), commonly known as a 535E4X cowls); or Rolls-Royce Alert Non-Modification Service Bulletin RB.211-71-AG698, excluding Appendix 1 and including Appendices 2, 3, and 4, Revision 2, dated June 20, 2013 (for engines with Dyna-Rohr or Bombardier standard air intake cowls). Repeat the replacement thereafter at intervals not to exceed 144 months.

(1) For airplanes with air intake cowls having serial numbers 4001 through 4121 inclusive: Replace within 12 months after the effective date of this AD.

(2) For airplanes with air intake cowls having serial numbers 4122 through 4241 inclusive: Replace within 24 months after the effective date of this AD.

(3) For airplanes with air intake cowls having serial numbers 4242 through 4361 inclusive: Replace within 36 months after the effective date of this AD.

(4) For airplanes with air intake cowls having serial numbers 4362 through 4481 inclusive: Replace within 48 months after the effective date of this AD.

(5) For airplanes with air intake cowls having serial numbers 4482 through 4484 inclusive: Replace within 60 months after the effective date of this AD.

(6) For airplanes with air intake cowls having serial numbers 9001 through 9117 inclusive: Replace within 60 months after the effective date of this AD.

(7) For airplanes with air intake cowls having serial numbers 9118 through 9237 inclusive: Replace within 72 months after the effective date of this AD.

(8) For airplanes with air intake cowls having serial numbers 9238 through 9357 inclusive: Replace within 84 months after the effective date of this AD.

(9) For airplanes with air intake cowls having serial numbers 9358 through 9477 inclusive: Replace within 96 months after the effective date of this AD.

(10) For airplanes with air intake cowls having serial numbers 9478 through 9597 inclusive: Replace within 108 months after the effective date of this AD.

(11) For airplanes with air intake cowls having serial numbers 9598 through 9717 inclusive: Replace within 120 months after the effective date of this AD.

(12) For airplanes with air intake cowls having serial numbers 9718 through 9786 inclusive: Replace within 132 months after the effective date of this AD.

### **(i) Credit for Previous Actions**

(1) This paragraph provides credit for actions required by paragraphs (g) and (h) of this AD, if those actions were performed before the effective date of this AD using the applicable service information specified in paragraphs (i)(1)(i) through (i)(1)(v) of this AD, which are not incorporated by reference in this AD.

(i) Rolls-Royce Alert Non-Modification Service Bulletin RB.211-71-AG698, dated October 14, 2011.

(ii) Rolls-Royce Alert Non-Modification Service Bulletin RB.211-71-AG698, Revision 1, dated September 28, 2012.

(iii) Bombardier Alert Non-Modification Service Bulletin RB211-E4-A1003, dated June 27, 2012, except as required by paragraph (i)(2) of this AD.

(iv) Bombardier Alert Non-Modification Service Bulletin RB211-E4-A1003, Revision 1, dated August 15, 2012, except as required by paragraph (i)(2) of this AD.

(v) Bombardier Alert Non-Modification Service Bulletin RB211-E4-A1003, Revision 2, dated December 5, 2012, except as required by paragraph (i)(2) of this AD.

(2) Where Bombardier Alert Non-Modification Service Bulletin RB211-E4-A1003, dated June 27, 2012; Revision 1, dated, August 15, 2012; or Revision 2, dated December 5, 2012; specifies part number LJ35479, quantity of two, use part numbers LJ50537 and LJ50538, quantity of one each. Where Bombardier Alert Non-Modification Service Bulletin RB211-E4-A1003, dated June 27, 2012; Revision 1, dated, August 15, 2012; or Revision 2, dated December 5, 2012; specifies part number LJ35482, use part number LJ50535; and where the service information specifies part number LJ35483, use part number LJ50536.

### **(j) No Reporting Requirement**

Although Bombardier Alert Non-Modification Service Bulletin RB211-E4-A1003, Revision 3, dated February 4, 2014; and Rolls-Royce Alert Non-Modification Service Bulletin RB.211-71-AG698, excluding Appendix 1 and including Appendices 2, 3, and 4, Revision 2, dated June 20, 2013; specify to submit certain information to the manufacturer, this AD does not include that requirement.

### **(k) Exception to Service Information Regarding Use of Parts**

Where Rolls-Royce Alert Non-Modification Service Bulletin RB.211-71-AG698, excluding Appendix 1 and including Appendices 2, 3, and 4, Revision 2, dated June 20, 2013; and Bombardier Alert Non-Modification Service Bulletin RB211-E4-A1003, Revision 3, dated February 4, 2014;

specify part numbers that lack a suffix, this AD allows the use of parts specified in paragraphs (k)(1) through (k)(3) of this AD, but does not allow use of pre-drilled parts when they are sold or delivered as separate parts and are not part of a forward bulkhead assembly kit. The parts used for accomplishment of this AD must be undrilled, or must only have pilot holes present prior to the repair accomplishment. While accomplishing the repair, the final size holes must be drilled and, where applicable, the parts must be trimmed with reference to the removed parts or to the retained existing structure, in accordance with the Accomplishment Instructions of Rolls-Royce Alert Non-Modification Service Bulletin RB.211-71-AG698, excluding Appendix 1 and including Appendices 2, 3, and 4, Revision 2, dated June 20, 2013; and Bombardier Alert Non-Modification Service Bulletin RB211-E4-A1003, Revision 3, dated February 4, 2014.

(1) Undrilled attachment angles and attachment angle joints having a part number with a suffix 'U.'

(2) Undrilled attachment angles, attachment angle joints, diaphragm segments and reinforcing plate that have a trim allowance left, having a part number with a suffix 'S.'

(3) Rib stiffeners, with pilot holes and trim allowance left, having a part number with a suffix 'S.'

### **(l) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Seattle Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ACO, send it to the attention of the person identified in paragraph (m)(1) of this AD. Information may be emailed to: 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair required by this AD if it is approved by the Boeing Commercial Airplanes Organization Designation Authorization (ODA) that has been authorized by the Manager, Seattle ACO, to make those findings. For a repair method to be approved, the repair must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

### **(m) Related Information**

(1) For more information about this AD, contact Kevin Nguyen, Aerospace Engineer, Propulsion Branch, ANM-140S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: (425) 917-6501; fax: (425) 917-6590; email: kevin.nguyen@faa.gov.

(2) Service information identified in this AD that is not incorporated by reference may be obtained at the addresses specified in paragraphs (n)(3), (n)(4), and (n)(5) of this AD.

### **(n) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Bombardier Alert Non-Modification Service Bulletin RB211-E4-A1003, Revision 3, dated February 4, 2014.

(ii) Rolls-Royce Alert Non-Modification Service Bulletin RB.211-71-AG698, excluding Appendix 1 and including Appendices 2, 3, and 4, Revision 2, dated June 20, 2013. (The revision level of this document is identified in the transmittal pages only.)

(3) For Rolls-Royce service information identified in this AD, contact Rolls-Royce plc, P.O. Box 31, Derby, DE24 8BJ, United Kingdom; telephone 011 44 1332 242424; fax 011 44 1332 249936; email [http://www.rolls-royce.com/contact/civil\\_team.jsp](http://www.rolls-royce.com/contact/civil_team.jsp); Internet <https://www.aeromanager.com>.

(4) For Bombardier service information identified in this AD, contact Short Brothers, Airworthiness, P.O. Box 241, Airport Road, Belfast, BT3 9DZ, Northern Ireland; telephone +44(0)2890-462469; fax +44(0)2890-468444; Internet <http://www.bombardier.com>.

(5) You may view this service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221.

(6) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Renton, Washington, on April 18, 2014.

Jeffrey E. Duven,  
Manager, Transport Airplane Directorate,  
Aircraft Certification Service.



**2014-09-09 The Boeing Company:** Amendment 39-17844; Docket No. FAA-2008-0618; Directorate Identifier 2007-NM-355-AD.

**(a) Effective Date**

This AD is effective July 1, 2014.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to all The Boeing Company Model 777-200, -200LR, -300, -300ER, and 777F series airplanes, certificated in any category.

**(d) Subject**

Air Transport Association (ATA) of America Code 2800, Aircraft Fuel System.

**(e) Unsafe Condition**

This AD was prompted by reports of two in-service occurrences on Model 737-400 airplanes of total loss of boost pump pressure of the fuel feed system, followed by loss of fuel system suction feed capability on one engine, and in-flight shutdown of the engine. We are issuing this AD to detect and correct failure of the engine fuel suction feed of the fuel system, which, in the event of total loss of the fuel boost pumps, could result in dual engine flameout, inability to restart the engines, and consequent forced landing of the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Maintenance Program Revision**

Within 90 days after the effective date of this AD: Revise the maintenance program to incorporate the airworthiness limitation (AWL) identified in Appendix 1 of this AD, AWL No. 28-AWL-101, Engine Fuel Suction Feed Operational Test. The initial compliance time for accomplishing AWL No. 28-AWL-101 is within 7,500 flight hours or 3 years after the effective date of this AD, whichever is first.

**(h) No Alternative Actions, Intervals, and/or Critical Design Configuration Control Limitations (CDCCLs)**

After accomplishing the revision required by paragraph (g) of this AD, no alternative actions (e.g., tests), intervals, or CDCCLs may be used unless the actions, intervals, or CDCCLs are approved as an alternative method of compliance (AMOC) in accordance with the procedures specified in paragraph (j) of this AD.

**(i) Credit for Actions Accomplished in Accordance With Previous Service Information**

This paragraph provides credit for the actions required by paragraph (g) of this AD, if those actions were performed before the effective date of this AD using AWL No. 28-AWL-101, Engine Fuel Suction Feed Operational Test, of Section D.2., Engine Suction Fuel System, of Section 9, Airworthiness Limitations (AWLs) and Certification Maintenance Requirements (CMRs), D622W001-9, Revision February 2012, or Revision June 2013, of the Boeing 777 Maintenance Planning Data (MPD) Document, provided the revised "interval" specified in Appendix 1 of this AD is incorporated into the existing maintenance program within 90 days after the effective date of this AD.

**(j) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Seattle Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ACO, send it to the attention of the person identified in the Related Information section of this AD. Information may be emailed to: 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

**(k) Related Information**

(1) For more information about this AD, contact Sue Lucier, Aerospace Engineer, Propulsion Branch, ANM-140S, 1601 Lind Avenue SW., Renton, Washington 98057-3356; phone: 425-917-6438; fax: 425-917-6590; email: [suzanne.lucier@faa.gov](mailto:suzanne.lucier@faa.gov).

(2) For service information identified in this AD that is not incorporated by reference, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P.O. Box 3707, MC 2H-65, Seattle, WA 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet <https://www.myboeingfleet.com>.

**(l) Material Incorporated by Reference**

None.

## Appendix 1 of AD 2014-09-09

AWL No.	Task	Interval	Applicability	Description
28-AWL-101	ALI	7,500 FH or 3 years, whichever is first	ALL	<p>Engine Fuel Suction Feed Operational Test.</p> <p>An Engine Fuel Suction Feed Operational Test must be accomplished successfully on each engine individually. This test is required in order to protect against engine flameout during suction feed operations, and must meet the following requirements (refer to Boeing AMM 28-22-00):</p> <p>Fuel Tank Quantity Limitations:</p> <p>Engine No. 1</p> <p>a. The Center Tank Fuel Quantity must not exceed 5,000 lbs (2,270 kg).</p> <p>b. The Main Tank No. 1 Fuel Quantity must be between 1,400 lbs-1,600 lbs (600 kg-800 kg). NOTE: Excess fuel can be transferred to Main Tank No. 2.</p> <p>Engine No. 2</p> <p>a. The Center Tank Fuel Quantity must not exceed 5,000 lbs (2,270 kg).</p> <p>b. The Main Tank No. 2 Fuel Quantity must be between 1,400 lbs-1,600 lbs (600 kg-800 kg). NOTE: Excess fuel can be transferred to Main Tank No. 1.</p> <p>Test Procedural Limitations:</p> <p>1. The Fuel Cross-Feed Valve must be CLOSED.</p> <p>2. The APU Selector Switch must be OFF.</p> <p>3. Idle Engine Warm-up time of minimum two minutes with Boost Pump ON.</p> <p>4. Idle Engine Suction Feed (Boost Pump OFF) operation for a minimum of five minutes. NOTE: APU may be used to start the engines provided the Fuel Tank Quantity and Test Procedural Limitations are met. The test is considered a success if engine operation is maintained during the five-minute period and engine parameters (N1, N2, and Fuel Flow) do not decay relative to those observed with Boost Pump ON. A suction feed system that fails the operational test must be repaired or maintained, and successfully pass the Engine Suction Feed Operational Test prior to further flight.</p>

Issued in Renton, Washington, on April 18, 2014.  
Jeffrey E. Duven,  
Manager, Transport Airplane Directorate,  
Aircraft Certification Service.