

FEDERAL AVIATION ADMINISTRATION AIRWORTHINESS DIRECTIVES

LARGE AIRCRAFT BIWEEKLY 2018-23

10/29/2018 - 11/11/2018



Federal Aviation Administration
Continued Operational Safety Policy Section, AIR-141
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LARGE AIRCRAFT

AD No.	Information	Manufacturer	Applicability
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Information Key: E – Emergency; COR – Correction; S – Supersedes; R – Replaces, A – Affects

Biweekly 2018-01

2017-26-06		Rolls-Royce Corporation	AE 3007A, AE 3007A1, AE 3007A1/1, AE 3007A1/2, AE 3007A1/3, AE 3007A1P, AE 3007A1E, AE 3007A3, AE 3007C and 3007C1 turbofan engines
2017-26-07		The Boeing Company	757-200, -200CB, and -300 series airplanes
2017-26-08		ATR-GIE Avions de Transport Régional	ATR42-500 and ATR72-212A airplanes
2017-26-09		ATR-GIE Avions de Transport Régional	ATR42-500 and ATR72-212A airplanes
2017-26-10		The Boeing Company	757-200, -200PF, -200CB, and -300 series airplanes,
2018-01-01		The Boeing Company	MD-11 and MD-11F airplanes
2018-01-02	R 2017-02-03	The Boeing Company	767-200, -300, and -400ER series airplanes
2018-01-03		Airbus	A300, A310 airplanes
2018-01-04	R 2011-04-05	Airbus	A340 airplanes
2018-01-05		Fokker Services B.V.	F28 Mark 0070 and 0100 airplanes
2018-01-06		Fokker Services B.V.	F28 Mark 0070 and 0100 airplanes

Biweekly 2018-02

2018-01-07		Airbus	A300 B4-601, B4-603, B4-620, B4-622, B4-605R, B4-622R, F4-605R, F4-622R, and C4-605R Variant F airplanes
2018-01-08		The Boeing Company	737-100, -200, -200C, -300, -400, and -500 series airplanes
2018-01-09	R 95-25-02	Fokker Services B.V.	F28 Mark 0100 series airplanes
2018-01-10	R 2011-14-10	Airbus	A330-342 airplanes
2018-01-11		Airbus	A319-115 and A319-133 airplanes
2018-02-03		Fokker Services B.V.	F28 Mark 0070 and Mark 0100 series airplanes
2018-02-06		Dassault Aviation	FALCON 7X, FALCON 2000EX, FALCON 900EX airplanes

Biweekly 2018-03

2018-02-09	R 2008-06-20 R1	Fokker Services B.V.	F28 Mark 1000, 2000, 3000, and 4000 airplanes
2018-02-10		Pratt & Whitney Division	PW4074, PW4074D, PW4077, PW4077D, PW4084D, PW4090, and PW4090-3 turbofan engines
2018-02-11		Airbus	A330-301, -321, -322 and A330-342 airplanes
2018-02-12	R 2016-02-01	Airbus	A320-211, -212, and -231 airplanes
2018-02-15	S 2007-08-06	British Aerospace Regional Aircraft	HP.137 Jetstream Mk.1, Jetstream Series 200 and 3101, and Jetstream Model 3201 airplanes
2018-02-16		Bombardier, Inc.	DHC-8-400, -401, and -402 airplanes

Biweekly 2018-04

2018-02-17	R 2012-12-12 R 2013-16-26	Airbus	A330, A340 airplanes
2018-02-18		Airbus	A318, A319, A320, A321 airplanes
2018-02-20		The Boeing Company	777-200, -200LR, -300, and -300ER series airplanes
2018-03-02		328 Support Services GmbH	328-300 airplanes
2018-03-04		Rosemount Aerospace, Inc.	Model 851AK pitot probes
2018-03-06	R 2015-02-18	Airbus	A330-201, -202, -203, -301, -302, and -303 airplanes
2018-03-07		Airbus	A330-202, -203, -223, and -243; A340-211, -212, -311, and -313 airplanes
2018-03-08	R 2005-19-28	Airbus	A330-301, -321, -322, and -342; A340-211, -212, -213, -311, -312, and -313 airplanes
2018-03-09		Airbus	A321-211 and -231 airplanes
2018-03-10		The Boeing Company	757-300 series airplanes
2018-03-11		Bombardier, Inc.	CL-600-2C10, -2D15, -2D24, -2E25 airplanes
2018-03-12		Airbus	A318, A319, A320, A321 airplanes
2018-03-13		General Electric Company	CT7-5A2, CT7-5A3, CT7-7A, CT7-7A1, CT7-9B, CT7-9B1, CT7-9B2, CT7-9C and CT7-9C3 model turboprop engines
2018-03-19		Dassault Aviation	FALCON 7X airplanes,
2018-03-20		Airbus	A330-301, -302, -303, -321, -322, -323, -341, -342, and -343 airplanes
2018-03-21		Airbus	A330-202, -203, -223, and -243 airplanes
2018-03-22		GE Aviation Czech s.r.o.	M601D-11, M601E-11, M601E-11A, M601E-11AS, M601E-11S, and M601F turboprop engines
2018-04-01		Airbus	A320-271N, A321-271N, and A321-272N airplanes

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AD No.	Information	Manufacturer	Applicability
Information Key: E – Emergency; COR – Correction; S – Supersedes; R – Replaces, A – Affects			
Biweekly 2018-05			
2017-06-06	R 2012-22-15	Fokker Services B.V.	F28 Mark 0070 and Mark 0100 airplanes
2018-04-03		Fokker Services B.V.	F28 Mark 0100 airplanes
2018-04-04		Bombardier, Inc.	CL-600-2C10, -2D15, -2D24, -2E25 airplanes
2018-04-05		Airbus	A319-112, A319-115, A320-214, A320-232, and A321-211 airplanes
2018-04-06	R 2012-12-05	The Boeing Company	737-100, -200, -200C, -300, -400, and -500 series airplanes
2018-04-07		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 airplanes
2018-04-08		The Boeing Company	737-100, -200, -200C, -300, -400, and -500 series airplanes
Biweekly 2018-06			
2018-02-17	R 2012-12-12	Airbus	A330, A340 airplanes
2018-04-12		The Boeing Company	737-100, -200, -200C, -300, -400, -500 series airplanes
2018-04-13		Honeywell International Inc.	AS907-1-1A model turbofan engines
2018-05-04		Airbus	A318, A319, A320, A321 airplanes
2018-05-05		Dassault Aviation	MYSTERE-FALCON 900, FALCON 900EX, FALCON 2000, and FALCON 2000EX airplanes
2018-05-06	R 2016-09-12	The Boeing Company	787-8 and 787-9 airplanes
2018-05-07		The Boeing Company	787-8 and 787-9 airplanes
2018-05-11		Airbus	A320-214, -251N, and -271N airplanes
2018-06-03	R 2009-18-16	Airbus	A310-203, -204, -221, -222, -304, -322, -324 and -325 airplanes
2018-06-06		Bombardier, Inc.	CL-600-2B16 (CL-604 Variant) airplanes
2018-06-08		The Boeing Company	757-200 series airplanes
Biweekly 2018-07			
2018-06-01		Airbus	A318, A319, A320, A321 airplanes
2018-06-02		Bombardier, Inc.	CL-600-2B19, -2C10, -2D15, -2D24 airplanes
2018-06-04		Airbus	A318, A319, A320, A321 airplanes
2018-06-05		The Boeing Company	737-300 and -500 series airplanes
2018-06-07		The Boeing Company	757-200, -200CB, and -300 series airplanes
Biweekly 2018-08			
2018-07-05		General Electric Company	CF6-80A, -80A1, -80A2, and -80A3 turbofan engines
2018-07-06		The Boeing Company	747-8 series airplanes
2018-07-07		Dassault Aviation	FAN JET FALCON, FAN JET FALCON SERIES D, E, F, and G; MYSTERE-FALCON 20-C5, 20-D5, 20-E5, and 20-F5 airplanes
2018-07-09		Bombardier, Inc.	CL-600-2C10, -2D15, -2D24, -2E25 airplanes
2018-07-10		Embraer S.A.	EMB-500 and EMB-505 airplanes
2018-07-11		Fokker Services B.V.	F28 Mark 0100 airplanes
2018-07-12		Airbus	A350-941 airplanes
Biweekly 2018-09			
2018-07-18	R 2015-19-12	The Boeing Company	767-200, -300, -300F, and -400ER series airplanes
2018-07-19		The Boeing Company	787-8 and 787-9 airplanes
2018-07-20	R 2014-03-07	The Boeing Company	MD-11 and MD-11F airplanes
2018-07-21	R 2005-12-16	Fokker Services B.V.	F28 Mark 0100 airplanes
2018-08-02		Rolls-Royce plc	Trent 1000-A2, Trent 1000-AE2, Trent 1000-C2, Trent 1000-CE2, Trent 1000-D2, Trent 1000-E2, Trent 1000-G2, Trent 1000-H2, Trent 1000-J2, Trent 1000-K2, and Trent 1000-L2 turbofan engines
2018-08-03		The Boeing Company	787-8 and 787-9 airplanes
2018-09-05		The Boeing Company	787-8 and 787-9 airplanes
2018-09-51		CFM International S.A.	CFM56-7B engines
Biweekly 2018-10			
2018-09-01		The Boeing Company	737-100, -200, -200C, -300, -400, and -500 series airplanes
2018-09-02	R 99-23-16	Airbus	A330 and A340 airplanes
2018-09-03	R 2009-11-08	Airbus	A330-202, -223, -243, -301, -322, and -342 airplanes
2018-09-04		Gulfstream Aerospace Corporation	G-IV, GIV-X airplanes

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2018-09-07		Rolls-Royce plc	Viper Mk. 601-22 engines
2018-09-08		The Boeing Company	737-200, -300, -400, and -500 series airplanes
2018-09-09		Airbus	A318, A319, A320, and A321 airplanes
2018-09-10		CFM International S.A.	CFM56-7B engines
2018-09-11		Airbus	A330 and A340 airplanes
2018-09-15	R 2016-25-18	Bombardier, Inc.	BD-700-1A10 and BD-700-1A11 airplanes
2018-09-16	R 2015-15-13	Airbus	A319, A320, and A321 airplanes
2018-10-02		The Boeing Company	787-8 airplanes
Biweekly 2018-11			
2018-09-09	Republication	Airbus	A318, A319, A320, and A321 airplanes
2018-09-12		The Boeing Company	747-200B, 747-300, and 747-400 series airplanes
2018-09-13		The Boeing Company	737-100, -200, -200C, -300, -400, and -500 series airplanes
2018-09-14	R 2016-11-02	Bombardier, Inc.	CL-600-2C10, -2D15, -2D24, and -2E25 airplanes
2018-09-17		Bombardier, Inc.	CL-600-1A11, -2A12, and -2B16 airplanes
2018-09-51		CFM International S.A.	CFM56-7B engines
2018-10-05	R 2016-23-01	Airbus	A310-203, -204, -221, -222, -304, -322, -324, and -325 airplanes
2018-10-08	R 2016-09-05	The Boeing Company	717-200 airplanes
2018-10-11	R 2018-09-10	CFM International S.A.	CFM56-7B engines
2018-10-12		The Boeing Company	737-100, -200, -200C, -300, -400, and -500 series airplanes
2018-11-02		Lockheed Martin Corporation/Lockheed Martin Aeronautics Company	188A and 188C airplanes; and P3A, P-3A, and P3B airplanes
Biweekly 2018-12			
2018-11-04		Aircraft Industries a.s.	L 410 UVP-E20 and L 410 UVP-E20 CARGO airplanes
2018-11-06		Airbus	A310-203, -221, -222, -304, -322, -324, and -325 airplanes
2018-11-07		Saab AB, Saab Aeronautics	SAAB 2000 airplanes
2018-11-08		The Boeing Company	767-200 and -300 series airplanes
2018-11-09	R 2014-02-01	Bombardier, Inc.	CL-600-2C10, -2D15, -2D24 airplanes
2018-11-10	R 2017-01-07	Dassault Aviation	FAN JET FALCON, FAN JET FALCON SERIES C, D, E, F, and G; MYSTERE-FALCON 200, 20-C5, 20-D5, 20-E5, 20-F5, and 50 airplanes
2018-11-11		Airbus	A350-941 airplanes
2018-11-12		Bombardier, Inc.	CL-600-2C10, -2D15, -2D24, -2E25 airplanes
2018-11-13		The Boeing Company	787-8 airplanes
2018-11-14		The Boeing Company	767-300 and -300F series airplanes
2018-11-15		Airbus	A320-271N; A321-271N, -271NX, -272N and -272NX airplanes
2018-12-02		Airbus	A318, A319, A320, A321 airplanes
2018-12-04		The Boeing Company	777-300ER series airplanes
2018-12-05		The Boeing Company	737-100, -200, -200C, -300, -400, and -500 series airplanes
Biweekly 2018-13			
2016-19-13	COR	Dassault Aviation	See AD; FALCON 2000 was originally missing from the applicability table in AD Biweekly 2016-22.
2018-09-04	COR	Gulfstream Aerospace Corporation	G-IV, GIV-X airplanes
2018-11-16		Engine Alliance	GP7270, GP7272, and GP7277 model turbofan engines
2018-12-06		The Boeing Company	787-8 and 787-9 airplanes
2018-12-07	R 2015-24-06	Gulfstream Aerospace Corporation	GVI airplanes
2018-13-02		Pratt & Whitney Division	PW4052, PW4056, PW4060, PW4062, PW4062A, PW4152, PW4156A, PW4158, PW4460, and PW4462 turbofan engine models
2018-13-04		Bombardier, Inc.	BD-100-1A10 airplanes
Biweekly 2018-14			
2018-13-03		International Aero Engines	PW1133G-JM, PW1133GA-JM, PW1130G-JM, PW1127G-JM, PW1127GA-JM, PW1127G1-JM, PW1124G-JM, PW1124G1-JM, and PW1122G-JM turbofan engines

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Biweekly 2018-15

2018-12-08	R 2017-07-07	Airbus	A330-201, -202, -203, -223, -243, -301, -302, -303, -321, -322, -323, -341, -342, and -343; A340-212, -213, -312, and -313 airplanes	
2018-13-06	R 2016-01-11	The Boeing Company	767-300 and -300F series airplanes	
2018-13-08		Airbus	A318, A319, A320, A321 airplanes	
2018-14-02		The Boeing Company	777-200, -200LR, -300, and -300ER series airplanes	
2018-14-03		Bombardier, Inc.	CL-600-2C10, -2D15, -2D24, -2E25 airplanes	
2018-14-04		Airbus	A330, A340 airplanes	
2018-14-05		Bombardier, Inc.	BD-100-1A10 airplanes	
2018-14-08		A 2016-11-03	The Boeing Company	777-200LR series airplanes
2018-14-09		Airbus	A318, A319, A320, A321 airplanes	
2018-14-11		ATR-GIE Avions de Transport Régional	ATR72-101, -102, -201, -202, -211, -212, and -212A airplanes	

Biweekly 2018-16

2018-07-04		The Boeing Company	DC-9-81 (MD-81), DC-9-82 (MD-82), DC-9-83 (MD-83), DC-9-87 (MD-87), MD-88, and MD-90-30 airplanes
2018-13-07		Rolls-Royce plc	Trent 1000-A, Trent 1000-C, Trent 1000-D, Trent 1000-E, Trent 1000-G, and Trent 1000-H turbofan engines
2018-14-12		General Electric Company	GEnx-1B64, -1B64/P1, -1B64/P2, -1B67, -1B67/P1, -1B67/P2, -1B70, -1B70/75/P1, -1B70/75/P2, -1B70/P1, -1B70/P2, -1B70C/P1, -1B70C/P2, -1B74/75/P1, and -1B74/75/P2 engines
2018-15-01		Rolls-Royce plc	Trent 1000-A, Trent 1000-C, Trent 1000-D, Trent 1000-E, Trent 1000-G, Trent 1000-H, Trent 1000-A2, Trent 1000-C2, Trent 1000-D2, Trent 1000-E2, Trent 1000-G2, Trent 1000-H2, Trent 1000-J2, Trent 1000-K2, and Trent 1000-L2 engines
2018-15-03		The Boeing Company	787 series airplanes
2018-15-05		Airbus SAS	A319-115, -132, and -133 airplanes; and Model A320-214, -216, -232, -233, -251N, and -271N airplanes
2018-16-05		The Boeing Company	757-200, -200PF, -200CB, and -300 series airplanes
2018-16-07		General Electric Company	GEnx-1B54, -1B58, -1B64, -1B67, -1B70, -1B54/P1, -1B58/P1, -1B64/P1, -1B67/P1, -1B70/P1, -1B54/P2, -1B58/P2, -1B64/P2, -1B67/P2, -1B70/P2, -1B70C/P1, -1B70/72/P1, -1B70/75/P1, -1B74/75/P1, -1B75/P1, -1B70C/P2, -1B70/72/P2, -1B70/75/P2, -1B74/75/P2, -1B75/P2, -1B76/P2, -1B76A/P2, -1B78/P2, -2B67, -2B67B, and -2B67/P turbofan engines

Biweekly 2018-17

2018-16-02		Airbus SAS	A318, A319, A320, and A321 airplanes
2018-16-03		Airbus SAS	A319-133 and A321-232 airplanes
2018-16-04		Airbus SAS	A318, A319, A320, and A321 airplanes
2018-16-06		The Boeing Company	747-100, -100B, -100B SUD, -200B, -200C, -200F, -300, -400, -400D, 747SP, and 747SR series; 747-8 airplanes
2018-16-12		Airbus	A319, A320, and A321 airplanes
2018-17-02		Bombardier, Inc.	CL-600-1A11, -2A12, -2B16 airplanes
2018-17-03		The Boeing Company	787-8 and 787-9 airplanes
2018-17-04		Roll-Royce Corporation	AE 2100D2A, AE 2100D3 turboprop engines; AE 3007A2 turbofan engines
2018-17-05		Airbus SAS	A350-941 and -1041 airplanes
2018-17-06		Fokker Services B.V.	F28 Mark 0070 and 0100 airplanes
2018-17-07	R 2017-24-01	ATR-GIE Avions de Transport Régional	ATR42-500 and ATR72-212A airplanes

Biweekly 2018-18

2018-14-10	R 2017-12-03	Pratt & Whitney Division	PW2037, PW2037M, and PW2040 turbofan engines
2018-15-04		General Electric Company	CF6-80 series engines
2018-16-10		GE Aviation Czech s.r.o.	H80-200 turboprop engines
2018-17-09		Bombardier, Inc.	DHC-8-400, -401, and -402 airplanes
2018-17-10	R 2017-15-17	Airbus SAS	A300 B4-605R and B4-622R; A300 C4-605R Variant F; A300 F4-605R and F4-622R airplanes

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2018-17-16		Airbus SAS	A300, A310 airplanes
2018-17-17		Bombardier, Inc.	DHC-8-400, -401, and -402 airplanes
2018-17-18	R 2015-02-17	Airbus SAS	A330 airplanes
2018-17-19		Airbus SAS	A318, A319, A320, A321 airplanes
2018-17-20		The Boeing Company	727, 727C, 727-100, 727-100C, 727-200, and 727-200F series airplanes
2018-17-21		Airbus SAS	A318, A319, A320, A321 airplanes
2018-17-22		Airbus SAS	A319-115 and -132, and A320-214, -216, -232, and -233 airplanes
2018-17-23		The Boeing Company	737-100, -200, -200C, -300, -400, and -500 series airplanes
2018-18-04		Airbus SAS	A350-941 and -1041 airplanes
2018-18-05		ATR-GIE Avions de Transport Régional	ATR42-200, -300, and -320 airplanes
Biweekly 2018-19			
2018-17-12		General Electric Company	GE90-76B, GE90-77B, GE90-85B, GE90-90B, and GE90-94B turbofan engines
2018-17-13		Rolls-Royce Deutschland Ltd & Co KG	Tay 620-15 turbofan engines
2018-17-24		Airbus SAS	A350-941 airplanes
2018-17-25		Airbus SAS	A350-941 and -1041 airplanes
2018-18-03		The Boeing Company	737-100, -200, -200C, -300, -400, and -500 series airplanes
2018-18-06	R 2013-02-04	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
2018-18-07		The Boeing Company	757-200, -200PF, -200CB, and -300 series airplanes
2018-18-08		Airbus SAS	A330, A340 airplanes
2018-18-09		Airbus Defense and Space S.A.	CN-235, CN-235-100, CN-235-200, CN-235-300, and C-295 airplanes
2018-18-10		Airbus Defense and Space S.A.	CN-235, CN-235-100, CN-235-200, CN-235-300, and C-295 airplanes
2018-18-13		The Boeing Company	737-100, -200, -200C, -300, -400, and -500 series airplanes
2018-18-14		Rolls-Royce Deutschland Ltd & Co KG	BR700-710A2-20, BR700-710C4-11 turbofan engines
2018-18-16	R 2018-12-08	Airbus SAS	A330, A340 airplanes
2018-18-17	R 2016-13-06	Saab AB, Saab Aeronautics	340A (SAAB/SF340A), 340B airplanes
Biweekly 2018-20			
2018-16-09		The Boeing Company Airplanes	737-100, -200, -200C, -300, -400, and -500
2018-16-13		Zodiac Seats France	Note: This AD was inadvertently left out of BW 2018-17
2018-18-15		Rolls-Royce plc	537-Series Cabin Attendant Seats
2018-18-18		Airbus SAS	RB211-Trent 875-17, 877-17, 884-17, 884B-17, 892-17, 892B-17 and 895-17 turbofan engines
2018-18-19		Airbus SAS	A300 B2-1A, B2-1C, B2K-3C, B2-203, B4-2C, B4-103, and B4-203 airplanes
2018-18-20		Airbus SAS	A300 and A310 airplanes
2018-18-21		Airbus SAS	A300 and A310 airplanes
2018-19-02		Airbus Defense and Space S.A.	A300 and A310 airplanes
2018-19-03		Fokker Services B.V.	C-212-CB, C-212-CC, C-212-CD, C-212-CE, and C-212-DF airplanes
2018-19-04		Learjet, Inc.	F28 Mark 0070 and 0100 airplanes
2018-19-05		Dassault Aviation	28, 29, 31, 31A, 35, 35A, 36, 36A, 55, 55B, 55C, and 60 airplanes
2018-19-12	R 2015-17-04	Bombardier, Inc.	MYSTERE-FALCON 900 airplanes
2018-19-13		328 Support Services GmbH	CL-600-2C10, -2D15, and -2D24 airplanes
2018-19-14		Dassault Aviation	328-100 and -300 airplanes
2018-19-17		Airbus SAS	FALCON 2000 and FALCON 2000EX airplanes
2018-19-19		Airbus SAS	A300 B2-1A, B2-1C, B2K-3C, B2-203, B4-2C, B4-103, and B4-203 airplanes
2018-19-20	R 2010-25-06	The Boeing Company	A350-941 airplanes
			737-200, -300, -400, and -500 series airplanes

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2018-19-21		The Boeing Company	707-100 long body, -200, -100B long body, -100B short body, -300, -300B, -300C, and -400 series; 720 and 720B series airplanes
2018-19-25		Dassault Aviation	FALCON 2000 airplanes
2018-19-28		Embraer S.A.	ERJ 190-100 ECJ, -100 STD, -100 LR, and -100 IGW; and Model ERJ 190-200 STD, -200 LR, and -200 IGW airplanes
2018-19-30		BAE Systems (Operations) Limited	4101 airplanes
2018-19-31		Airbus SAS	A310-203, -204, -221, -222, -304, -322, -324, and -325 airplanes
2018-19-32		The Boeing Company	707-100 Long Body, -200, -100B Long Body, and -100B Short Body; 707-300, -300B, -300C, and -400; and 720 and 720B series airplanes
2018-19-33		Airbus SAS	A300 B4-601, B4-603, B4-620, B4-622, B4-605R, B4-622R, F4-605R, F4-622R, and C4-605R Variant F airplanes
2018-20-02	R 98-18-24	Airbus SAS	A320-211 and A320-231 airplanes
2018-20-04		Gulfstream Aerospace Corporation	GVI airplanes
2018-20-05		The Boeing Company	727C, 727-100, 727-100C, 727-200, and 727-200F series airplanes
Biweekly 2018-21			
2018-17-14		General Electric Company	CF34-8E turbofan engines
2018-18-01	R 2018-10-11	CFM International S.A.	CFM56-7B engines
2018-19-06		Dassault Aviation	FALCON 900EX airplanes
2018-19-07		Airbus SAS	A300, A310 airplanes
2018-19-15		GEVEN S.p.A.	Type D1-02 and D1-03 in-arm table, standard, and last row seats
2018-19-16		CFM International S.A.	CFM LEAP-1A23, -1A24, -1A24E1, -1A26, -1A26E1, -1A26CJ, -1A29, -1A29CJ, -1A30, -1A32, -1A33, -1A33B2, and -1A35A turbofan engines
2018-19-18		Airbus SAS	A300 B4-603, A300 B4-620, A300 B4-622, A300 B4-605R, A300 B4-622R, A300 C4-605R Variant F, and A300 F4-605R airplanes
2018-19-22		General Electric Company	CF34-10A16, CF34-10E2A1, CF34-10E5, CF34-10E5A1, CF34-10E6, CF34-10E6A1, CF34-10E7, and CF34-10E7-B turbofan engines
2018-19-23	R 2013-01-02	The Boeing Company	747 and 757 airplanes
2018-19-24		BAE Systems (Operations) Limited	4101 airplanes
2018-19-26		Dassault Aviation	MYSTERE-FALCON 200 airplanes
2018-19-27		Dassault Aviation	FALCON 2000EX airplanes
2018-19-29		Airbus SAS	A330 and A340 airplanes
2018-20-06	R 2016-25-03	Airbus SAS	A300 F4-605R and A300 F4-622R airplanes
2018-20-07		Dassault Aviation	MYSTERE-FALCON 50 airplanes
2018-20-08		Airbus SAS	A318, A319, A320, and A321 airplanes
2018-20-10		Airbus SAS	A350-941 airplanes
2018-20-13		The Boeing Company	737 (see AD), 757, and 767 airplanes
Biweekly 2018-22			
2018-20-11		Bombardier, Inc.	DHC-8-301, -311, and -315 airplanes
2018-20-12		Bombardier, Inc.	DHC-8-102, -103, -106, -201, -202, -301, -311, and -315 airplanes
2018-20-13		The Boeing Company	737, 757, 767 series airplanes (see AD)
2018-20-14		ATR-GIE Avions de Transport Régional	ATR42-500 airplanes
2018-20-15	R 2015-09-07	The Boeing Company	787-8 and 787-9 airplanes
2018-20-16	R 2013-11-12	Bombardier, Inc.	BD-100-1A10 airplanes
2018-20-17	R 2012-22-10	Bombardier, Inc.	CL-600-2C10, -2D15, -2D24, -2E25 airplanes
2018-20-18		Bombardier, Inc.	DHC-8-400, -401, and -402 airplanes
2018-20-19	R 2017-16-07	Airbus SAS	A330, A340 airplanes
2018-20-20		Bombardier, Inc.	BD-700-1A10 and BD-700-1A11 airplanes
2018-20-21		Bombardier, Inc.	CL-600-2B16 (CL-604 Variants) airplanes

LARGE AIRCRAFT

AD No.	Information	Manufacturer	Applicability
Information Key: E – Emergency; COR – Correction; S – Supersedes; R – Replaces, A – Affects			
2018-20-22		General Electric Company	GE90-110B1, GE90-113B, and GE90-115B turbofan engines
2018-20-23	R 2017-07-04	General Electric Company	GE90-110B1 and GE90-115B turbofan engines
2018-20-24		The Boeing Company	737-600, -700, -700C, -800, -900, and -900ER series airplanes
2018-21-01	R 2017-20-06	Honeywell International Inc.	AS907-1-1A turbofan engines
2018-21-03		Bombardier, Inc.	BD-700-1A10 and BD-700-1A11 airplanes
2018-21-05		Airbus SAS	A319-131, A319-132, A319-133, A320-231, A320-232, A320-233, A321-131, A321-231, and A321-232 airplanes
2018-21-07		Airbus SAS	A330 airplanes
2018-21-08		The Boeing Company	737-100, -200, -200C, -300, -400, and -500 series airplanes
2018-21-09	R 2006-07-26	ATR-GIE Avions de Transport Régional	ATR42-200, -300, -320, and -500 airplanes
2018-22-03	R 2016-24-03	Bombardier, Inc.	DHC-8-400, -401 and -402 airplanes
2018-22-04	R 2017-01-02	The Boeing Company	787 series airplanes
Biweekly 2018-23			
2018-21-10		International Aero Engines	PW1133G-JM, PW1133GA-JM, PW1130G-JM, PW1127G-JM, PW1127GA-JM, PW1127G1-JM, PW1124G-JM, PW1124G1-JM, and PW1122G-JM turbofan engines
2018-21-11		Pratt & Whitney Division	PW4074D, PW4077D, PW4084D, PW4090, and PW4090-3 turbofan engines
2018-22-02		International Aero Engines	PW1133G-JM, PW1133GA-JM, PW1130G-JM, PW1127G-JM, PW1127GA-JM, PW1127G1-JM, PW1124G-JM, PW1124G1-JM, and PW1122G-JM turbofan engines
2018-22-05		Engine Alliance	GP7270, GP7272, and GP7277 turbofan engines
2018-22-06		Pratt & Whitney	PW2037, PW2037M, and PW2040 turbofan engines
2018-22-08		Bombardier, Inc.	BD-700-1A10 and BD-700-1A11 airplanes
2018-22-09		The Boeing Company	787 series airplanes
2018-22-10	R 2016-04-16	The Boeing Company	DC-10-10, DC-10-10F, DC-10-15, DC-10-30, DC-10-30F (KC-10A and KDC-10), DC-10-40, and DC-10-40F; MD-10-10F, MD-10-30F, MD-11, and MD-11F airplanes
2018-22-12		Bombardier, Inc	CL-600-2C10, -2D15, -2D24, -2E25 airplanes
2018-22-13		Airbus SAS	A350-941 and -1041 airplanes
2018-23-03		Airbus SAS	A318, A319, A320, A321 airplanes
2018-23-05		Airbus SAS	A350-941, A350-1041 airplanes
2018-23-51		The Boeing Company	737-8 and -9 airplanes



2018-21-10 International Aero Engines: Amendment 39-19468; Docket No. FAA-2018-0404; Product Identifier 2018-NE-15-AD.

(a) Effective Date

This AD is effective December 12, 2018.

(b) Affected ADs

None.

(c) Applicability

This AD applies to International Aero Engines (IAE) PW1133G-JM, PW1133GA-JM, PW1130G-JM, PW1127G-JM, PW1127GA-JM, PW1127G1-JM, PW1124G-JM, PW1124G1-JM, and PW1122G-JM turbofan engines with engine serial numbers (ESNs) P770450 through P770614, and with diffuser case air seal assembly part number (P/Ns) 30G4993-01, high-pressure turbine (HPT) 2nd-stage vane assembly, P/N 30G7572, or HPT 2nd-stage borescope stator vane assembly, P/N 30G7672, installed.

(d) Subject

Joint Aircraft System Component (JASC) Code 7230, Turbine Engine Compressor Section.

(e) Unsafe Condition

This AD was prompted by reports of in-flight engine shutdowns and aborted take-offs that were the result of a failed knife edge seal on affected engines with ESNs P770450 through P770614. We are issuing this AD to prevent failure of the rear high-pressure compressor rotor hub knife edge seal. The unsafe condition, if not addressed, could result in failure of one or more engines, loss of thrust control, and loss of the airplane.

(f) Compliance

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

(g) Required Actions

At the next engine shop visit after the effective date of this AD, do the following:

- (1) Remove from service the diffuser case air seal assembly, P/N 30G4993-01, and replace with a part eligible for installation.
- (2) Remove from service the HPT 2nd-stage vane assembly, P/N 30G7572, and replace with a part eligible for installation.

(3) Remove from service HPT 2nd-stage borescope stator vane assembly, P/N 30G7672, and replace with a part eligible for installation.

(h) Definition

For the purpose of this AD, an “engine shop visit” is the induction of an engine into the shop for maintenance involving the separation of pairs of major mating engine flanges (lettered flanges). The separation of engine flanges solely for the purpose of transportation of the engine without subsequent engine maintenance does not constitute an engine shop visit.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, ECO Branch, 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 certification office, send it to the attention of the person identified in paragraph (j) of this AD. You may email your request to: ANE-AD-AMOC@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.

(j) Related Information

For more information about this AD, contact Kevin M. Clark, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7088; fax: 781-238-7199; email: kevin.m.clark@faa.gov.

(k) Material Incorporated by Reference

None.

Issued in Burlington, Massachusetts, on October 31, 2018.
Robert J. Ganley,
Manager, Engine and Propeller Standards Branch,
Aircraft Certification Service.



2018-21-11 Pratt & Whitney Division: Amendment 39-19469; Docket No. FAA-2018-0368; Product Identifier 2018-NE-12-AD.

(a) Effective Date

This AD is effective December 5, 2018.

(b) Affected ADs

None.

(c) Applicability

This AD applies to all Pratt & Whitney Division (PW) PW4074D, PW4077D, PW4084D, PW4090, and PW4090-3 turbofan engines with low-pressure compressor (LPC) fan hub, part number (P/N) 51B821 or P/N 52B521, installed.

(d) Subject

Joint Aircraft System Component (JASC) Code 7230, Turbine Engine Compressor Section.

(e) Unsafe Condition

This AD was prompted by low-cycle fatigue analysis techniques, updated by the engine manufacturer, which indicated certain LPC fan hubs could crack before their published life limit. We are issuing this AD to prevent failure of the LPC fan hub. The unsafe condition, if not addressed, could result in uncontained hub release, damage to the engine, and damage to the airplane.

(f) Compliance

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

(g) Required Actions

(1) After the effective date of this AD, perform a fluorescent penetrant inspection (FPI) and an eddy current inspection (ECI) of the LPC fan hub the next time the engine is separated at the M-flange and the LPC fan hub has accumulated 2,000 or more flight cycles since the last FPI and ECI.

(2) Thereafter, perform an FPI and an ECI of the LPC fan hub every time the engine is separated at the M-flange and the LPC fan hub has accumulated 2,000 or more flight cycles since the last LPC fan hub ECI and FPI.

(3) Use the Accomplishment Instructions, Step No. 11, in PW Alert Service Bulletin PW4G-112-A72-351, dated February 22, 2018, to do the ECI.

(4) If a crack is found during the inspections required by paragraphs (g)(1) or (2) of this AD, remove the LPC fan hub from service before further flight and replace with a part eligible for installation.

(h) Alternative Methods of Compliance (AMOCs)

(1) The Manager, ECO Branch, 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 certification office, send it to the attention of the person identified in paragraph (i) of this AD. You may email your request to: ANE-AD-AMOC@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.

(i) Related Information

For more information about this AD, contact Jo-Ann Theriault, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7105; fax: 781-238-7199; email: jo-ann.theriault@faa.gov.

(j) 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) Pratt & Whitney Division Alert Service Bulletin PW4G-112-A72-351, dated February 22, 2018.

(ii) [Reserved.]

(3) For service information identified in this AD, contact Pratt & Whitney Division, 400 Main St., East Hartford, CT 06118; phone: 800-565-0140; fax: 860-565-5442.

(4) You may view this service information at FAA, Engine and Propeller Standards Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call 781-238-7759.

(5) 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 Burlington, Massachusetts, on October 25, 2018.

Robert J. Ganley,
Manager, Engine and Propeller Standards Branch,
Aircraft Certification Service.



AD 2018-22-02 International Aero Engines: Amendment 39-19475; Docket No. FAA-2018-0431; Product Identifier 2018-NE-16-AD.

(a) Effective Date

This AD is effective December 12, 2018.

(b) Affected ADs

None.

(c) Applicability

This AD applies to International Aero Engines (IAE) PW1133G-JM, PW1133GA-JM, PW1130G-JM, PW1127G-JM, PW1127GA-JM, PW1127G1-JM, PW1124G-JM, PW1124G1-JM, and PW1122G-JM turbofan engines with a high-pressure compressor (HPC) front hub, part number (P/N) 30G2401, installed.

(d) Subject

Joint Aircraft System Component (JASC) Code 7230, Turbine Engine Compressor Section.

(e) Unsafe Condition

This AD was prompted by corrosion found on the HPC front hub, P/N 30G2401, installed. We are issuing this AD to prevent cracking and failure of the HPC front hub. The unsafe condition, if not addressed, could result in uncontained HPC front hub release, damage to the engine, and damage to the airplane.

(f) Compliance

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

(g) Required Actions

Remove from service the HPC front hub, P/N 30G2401, within 120 days after the effective date of this AD, or as follows, whichever occurs later, and replace with a part eligible for installation:

(1) For PW1122G-JM, PW1124G1-JM, PW1124G-JM, PW1127G1-JM, PW1127GA-JM, and PW1127G-JM engines, remove the HPC front hub before exceeding 6,180 cycles since new (CSN) or within five years since the ship date listed in Table 1 to paragraph (g) of this AD, whichever occurs first.

(2) For PW1130G-JM, PW1133GA-JM, and PW1133G-JM engines, remove the HPC front hub before exceeding 4,440 CSN or within four years since the ship date listed in Table 1 to paragraph (g) of this AD, whichever occurs first.

(3) For engines operating as a mix of models listed in paragraphs (g)(1) and (2) of this AD, remove the HPC front hub using a CSN calculated by an approved FAA method or within four years since the ship date listed in Table 1 to paragraph (g) of this AD, whichever occurs first. You may find guidance for an approved FAA method of mixed model CSN calculation in Section PW1000G-C-05-10-00-02A-288A-D of the PW1100G-JM Series Airworthiness Limitations Manual, P/N 5316993, dated September 30, 2015.

(4) For any HPC front hub, P/N 30G2401, whose serial number is not listed in Table 1 to paragraph (g) of this AD, use October 21, 2015, as the ship date.

Table 1 to Paragraph (g) - Steel Front Hub Ship Date

Steel Front Hub Serial Number	Ship Date	Originally Installed in Engine Serial Number
LENCAJ3513	10/23/2015	P770121
LENCAJ4524	11/6/2015	P770125
LENCAJ2782	11/25/2015	P770126
LENCAJ2794	11/9/2015	P770127
LENCAJ4527	11/17/2015	P770128
LENCAJ3500	11/16/2015	P770129
LENCAJ4508	11/23/2015	P770130
LENCAJ3505	6/20/2016	P770131
LENCAJ4518	12/2/2015	P770132
LENCAJ3507	12/31/2015	P770133
LENCAJ2789	12/22/2015	P770134
LENCAJ4516	12/12/2015	P770135
LENCAJ3509	12/31/2015	P770136
LENCAJ3511	12/28/2015	P770137
LENCAJ4538	1/6/2016	P770138
LENCAJ4535	1/8/2016	P770139
LENCAJ2788	1/17/2016	P770140
LENCAJ4512	1/17/2016	P770141
LENCAJ3502	1/31/2016	P770142
LENCAJ3503	2/7/2016	P770143
LENCAJ4540	1/31/2016	P770144
LENCAJ3510	2/17/2016	P770145
LENCAJ4539	2/14/2016	P770146
LENCAJ4525	2/25/2016	P770147
LENCAJ4531	2/20/2016	P770148
LENCAJ4510	3/14/2016	P770149
LENCAJ4522	2/27/2016	P770150
LENCAJ3506	2/27/2016	P770151
LENCAJ4532	3/11/2016	P770153
LENCAJ3506	3/17/2016	P770154
LENCAJ4534	3/31/2016	P770155
LENCAJ4548	6/13/2016	P770160
LENCAJ4552	5/6/2016	P770161
LENCAJ4521	4/30/2016	P770163
LENCAJ4529	4/30/2016	P770164
LENCAJ4520	4/28/2016	P770165
LENCAJ4544	4/30/2016	P770166
LENCAJ4511	8/25/2016	P770167
LENCAJ4549	8/26/2016	P770168

LENCAJ4553	5/19/2016	P770169
LENCAJ4551	5/19/2016	P770170
LENCAJ4517	5/21/2016	P770171
LENCAJ4543	5/19/2016	P770172
LENCAJ4513	5/31/2016	P770173
LENCAJ4550	5/20/2016	P770174
LENCAJ4530	6/8/2016	P770175
LENCAJ4533	5/26/2016	P770176
LENCAJ4515	6/8/2016	P770177
LENCAJ4563	6/26/2016	P770178
LENCAJ4545	6/10/2016	P770179
LENCAJ4542	6/10/2016	P770180
LENCAJ4546	6/22/2016	P770181
LENCAJ4566	6/22/2016	P770182
LENCAJ4558	6/23/2016	P770183
LENCAJ4507	8/31/2016	P770184
LENCAK4516	8/29/2016	P770185
LENCAJ3508	7/8/2016	P770186
LENCAJ4572	6/30/2016	P770187
LENCAJ4573	6/28/2016	P770188
LENCAJ4555	6/29/2016	P770189
LENCAJ4565	6/30/2016	P770190
LENCAJ4559	7/5/2016	P770191
LENCAJ4570	7/16/2016	P770192
LENCAJ4560	7/23/2016	P770193
LENCAJ4571	7/23/2016	P770194
LENCAJ4562	7/25/2016	P770195
LENCAJ4526	8/12/2016	P770196
LENCAJ4561	8/9/2016	P770197
LENCAJ4504	7/29/2016	P770198
LENCAJ4579	8/7/2016	P770199
LENCAJ4519	8/3/2016	P770200
LENCAK4517	8/9/2016	P770201
LENCAJ4595	8/17/2016	P770202
LENCAK4523	8/30/2016	P770203
LENCAK4505	8/15/2016	P770204
LENCAJ4541	8/31/2016	P770205
LENCAJ4592	8/22/2016	P770206
LENCAJ4569	9/30/2016	P770207
LENCAK4512	8/29/2016	P770208
LENCAK4518	10/7/2016	P770210
LENCAK4541	8/31/2016	P770211
LENCAK4535	9/17/2016	P770212

LENCAJ4584	9/20/2016	P770213
LENCAK4538	9/3/2016	P770214
LENCAK4533	11/30/2016	P770215
LENCAJ4594	9/23/2016	P770216
LENCAJ4509	10/25/2016	P770217
LENCAK4526	9/16/2016	P770218
LENCAK4532	9/19/2016	P770219
LENCAJ4602	9/22/2016	P770220
LENCAK4513	9/27/2016	P770221
LENCAK5147	10/19/2016	P770222
LENCAK4536	10/19/2016	P770223
LENCAK4522	9/30/2016	P770224
LENCAJ4578	12/29/2016	P770225
LENCAJ4596	9/30/2016	P770226
LENCAJ4575	10/4/2017	P770227
LENCAJ4577	12/5/2016	P770228
LENCAJ4597	10/12/2016	P770229
LENCAJ4588	10/19/2016	P770230
LENCAK4552	10/14/2016	P770231
LENCAJ4537	10/29/2016	P770232
LENCAJ4586	10/21/2016	P770233
LENCAJ4528	11/18/2016	P770234
LENCAJ4554	12/29/2016	P770235
LENCAK4553	11/1/2016	P770236
LENCAJ4598	11/18/2016	P770237
LENCAK4550	12/5/2016	P770238
LENCAJ4603	12/5/2016	P770239
LENCAJ4585	12/5/2016	P770240
LENCAK4537	12/2/2016	P770241
LENCAK4520	11/8/2016	P770242
LENCAK4528	12/2/2016	P770243
LENCAK5171	11/30/2016	P770244
LENCAK4549	12/5/2016	P770245
LENCAJ4557	12/5/2016	P770246
LENCAK4515	12/7/2016	P770247
LENCAJ4601	1/8/2017	P770248
LENCAK4511	12/7/2016	P770249
LENCAJ4581	2/21/2017	P770250
LENCAK5182	11/30/2016	P770251
LENCAK5153	11/30/2016	P770252
LENCAJ4576	12/12/2016	P770253
LENCAK4539	2/26/2017	P770254
LENCAJ4591	8/23/2017	P770255

LENCAK5166	12/15/2016	P770256
LENCAK5193	12/17/2016	P770258
LENCAK5149	12/21/2016	P770259
LENCAK5157	3/28/2017	P770260
LENCAK5191	12/20/2016	P770261
LENCAK5176	12/20/2016	P770262
LENCAK4545	12/21/2016	P770263
LENCAK5192	12/22/2016	P770264
LENCAK4548	12/23/2016	P770265
LENCAK5154	12/27/2016	P770266
LENCAK5163	12/28/2016	P770267
LENCAK5184	12/23/2016	P770268
LENCAK4507	12/31/2016	P770269
LENCAK5165	2/2/2017	P770270
LENCAK5173	12/29/2016	P770271
LENCAJ4589	12/29/2016	P770272
LENCAK5179	12/31/2016	P770273
LENCAK4543	1/10/2017	P770275
LENCAK4510	3/31/2017	P770276
LENCAK5156	1/17/2017	P770277
LENCAK5169	1/16/2017	P770278
LENCAK4524	1/19/2017	P770279
LENCAK5187	1/24/2017	P770280
LENCAK5175	1/24/2017	P770281
LENCAK4546	1/25/2017	P770282
LENCAK5185	1/24/2017	P770283
LENCAK5162	2/8/2017	P770284
LENCAK5150	8/25/2017	P770285
LENCAK5144	3/31/2017	P770286
LENCAJ2787	1/31/2017	P770287
LENCAK4554	1/25/2017	P770288
LENCAK5186	1/31/2017	P770289
LENCAK5172	1/31/2017	P770290
LENCAK5170	1/31/2017	P770291
LENCAK5155	2/6/2017	P770292
LENCAK5164	2/7/2017	P770293
LENCAK5168	2/13/2017	P770294
LENCAK4514	2/14/2017	P770295
LENCAK5189	6/22/2017	P770296
LENCAK7184	2/16/2017	P770297
LENCAK5146	2/28/2017	P770298
LENCAK5151	2/27/2017	P770299
LENCAK5152	8/14/2017	P770300

LENCAK4527	2/20/2017	P770301
LENCAK5180	8/21/2017	P770302
LENCAJ4567	4/19/2017	P770303
LENCAK5148	3/5/2017	P770304
LENCAJ4590	2/25/2017	P770305
LENCAK4525	3/13/2017	P770306
LENCAK4551	4/25/2017	P770308
LENCAK5142	3/11/2017	P770311
LENCAK5143	2/28/2017	P770312
LENCAK4542	3/14/2017	P770313
LENCAK5181	3/8/2017	P770315
LENCAK7185	3/19/2017	P770316
LENCAK5161	3/21/2017	P770317
LENCAK4544	3/31/2017	P770333
LENCAJ4574	5/25/2017	P770348
LENCAK5183	7/3/2017	P770395
LENCAK4531	11/7/2016	SPARE
LENCAL3099	2/23/2017	SPARE
LENCAK5188	11/3/2017	SPARE
LENCAK5228	12/27/2017	SPARE
LENCAJ4582	12/27/2017	SPARE
LENCAL3091	2/1/2018	SPARE
LENCAK5237	2/5/2018	SPARE
LENCAK5227	2/5/2018	SPARE
LENCAL3092	2/5/2018	SPARE

(h) Alternative Methods of Compliance (AMOCs)

(1) The Manager, ECO Branch, 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 certification office, send it to the attention of the person identified in paragraph (i) of this AD. You may email your request to: ANE-AD-AMOC@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.

(i) Related Information

For more information about this AD, contact Kevin M. Clark, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA, 01803; phone: 781-238-7088; fax: 781-238-7199; email: kevin.m.clark@faa.gov.

(j) Material Incorporated by Reference

None.

Issued in Burlington, MA, on November 01, 2018.

Robert J. Ganley,
 Manager, Engine and Propeller Standards Branch,
 Aircraft Certification Service.



2018-22-05 Engine Alliance: Amendment 39-19478; Docket No. FAA-2018-0934; Product Identifier 2018-NE-35-AD.

(a) Effective Date

This AD is effective November 23, 2018.

(b) Affected ADs

None.

(c) Applicability

This AD applies to Engine Alliance (EA) GP7270, GP7272, and GP7277 turbofan engines, with a high-pressure turbine (HPT) stator case (HPT case), part number (P/N) 2060M40G02 or 2137M29G01 installed, and with HPT case serial numbers (S/Ns) listed in Planning Information, Table 1, of EA Alert Service Bulletin (ASB) EAGP7-A72-401, dated August 23, 2018, and in Planning Information, Table 1, of EA Service Bulletin (SB) EAGP7-72-399, dated June 4, 2018.

(d) Subject

Joint Aircraft System Component (JASC) Code 7250, Turbine Section.

(e) Unsafe Condition

This AD was prompted by the discovery of a quality escape at a manufacturing facility performing unapproved welds on HPT cases. We are issuing this AD to prevent failure of the HPT case. The unsafe condition, if not addressed, could result in engine fire and damage to the airplane.

(f) Compliance

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

(g) Required Actions

(1) For HPT cases listed in Planning Information, Table 1, of EA ASB EAGP7-A72-401, dated August 23, 2018, remove the affected HPT case from service within the cycles identified in Table 1 of EA SB EAGP7-A72-401 after the effective date of this AD.

(2) For HPT cases listed in Planning Information, Table 1, of EAGP7-72-399, dated June 4, 2018, remove the affected HPT cases from service, using the number of part cycles since new (PCSN) or part cycles since overhaul (PCSO), whichever is less, as specified in Table 1 to paragraph (g)(2) of this AD.

Table 1 to Paragraph (g)(2) of This AD–Compliance Times

PCSN or PCSO	Remove from service within these cycles after the effective date of this AD
Less than 1000	150 cycles.
1001 to 2000	125 cycles.
2001 to 3000	100 cycles.
3001 to 4000	75 cycles.
4001 to 5000	50 cycles.
5001 or more	25 cycles.

(3) Replace the removed HPT case with a part eligible for installation before further flight.

(h) Definitions

For the purpose of this AD, a “part eligible for installation” is any HPT case not identified in paragraph (c) of this AD or an HPT case listed in this AD that has been inspected and repaired by a method approved by the Manager, ECO Branch, FAA.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, ECO Branch, 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 certification office, send it to the attention of the person identified in paragraph (j) of this AD. You may email your request to: ANE-AD-AMOC@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.

(j) Related Information

For more information about this AD, contact Matthew Smith, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7735; fax: 781-238-7199; email: matthew.c.smith@faa.gov.

(k) 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) Engine Alliance (EA) Alert Service Bulletin EAGP7-A72-401, dated August 23, 2018.

(ii) EA Service Bulletin EAGP7-72-399, dated June 4, 2018.

(3) For service information identified in this AD, contact Engine Alliance, 411 Silver Lane, East Hartford, CT 06118; phone: 800-565-0140; email: help24@pw.utc.com; website: www.engineallianceportal.com.

(4) You may view this service information at FAA, Engine and Propeller Standards Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call 781-238-7759.

(5) 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 Burlington, Massachusetts, on November 2, 2018.
Robert J. Ganley,
Manager, Engine and Propeller Standards Branch,
Aircraft Certification Service.



2018-22-06 Pratt & Whitney: Amendment 39-19479; Docket No. FAA-2017-1206; Product Identifier 2017-NE-42-AD.

(a) Effective Date

This AD is effective December 3, 2018.

(b) Affected ADs

None.

(c) Applicability

This AD applies to all Pratt & Whitney (PW) PW2037, PW2037M, and PW2040 turbofan engines with JFC104-1 fuel control units (FCUs) with serial numbers listed in the Accomplishment Instructions, FCU Serial Number List, of PW Alert Service Bulletin PW2000 A73-172, dated October 16, 2017.

(d) Subject

Joint Aircraft System Component (JASC) Code 7321, Fuel Control/Turbine Engines.

(e) Unsafe Condition

This AD was prompted by an uncommanded high thrust event that occurred during approach on January 16, 2016, and during landing on April 6, 2016. We are issuing this AD to prevent failure of the metering valve pilot valve (MVPV) end cap to remain taut, causing uncommanded higher fuel flow to the engine. The unsafe condition, if not addressed, could result in failure of the FCU, loss of engine thrust control and reduced control of the airplane.

(f) Compliance

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

(g) Required Actions

Remove from service the MVPV from the FCU at the next FCU shop visit after the effective date of the AD and replace the MVPV with a part eligible for installation.

(h) Definitions

(1) For the purpose of this AD, an FCU shop visit is defined as the removal of the FCU from the engine and induction of the FCU into a FCU shop that can perform these procedures regardless of the scheduled maintenance action or the reason for the FCU removal.

(2) For the purpose of this AD, a part eligible for installation is one of the following:

(i) A zero time since new MVPV, or

(ii) An MVPV repaired by a method approved by FAA that includes an end plug with tamper proof features. A tamper proof feature is a feature that goes beyond the original equipment manufacturer design of only using epoxy retention and threads to prevent end cap maintenance tampering and loosening.

(i) Installation Prohibition

After the effective date of this AD, do not install any MVPV removed in accordance with paragraph (g) unless it meets the definition of a part eligible for installation per paragraph (h)(2) of this AD.

(j) Alternative Methods of Compliance (AMOCs)

(1) The Manager, ECO Branch, 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 certification office, send it to the attention of the person identified in paragraph (l) of this AD. You may email your request to: ANE-AD-AMOC@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

For more information about this AD, contact Kevin M. Clark, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7088; fax: 781-238-7199; email: Kevin.M.Clark@faa.gov.

(l) 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) Pratt & Whitney (PW) Alert Service Bulletin PW2000 A73-172, dated October 16, 2017.

(ii) [Reserved]

(3) For PW service information identified in this AD, contact Pratt & Whitney Division, 400 Main St., East Hartford, CT 06118; phone: 800-565-0140; fax: 860-565-5442.

(4) You may view this service information at FAA, Engine and Propeller Standards Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call 781-238-7759.

(5) 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 Burlington, Massachusetts, on October 23, 2018.

Robert J. Ganley,
Manager, Engine and Propeller Standards Branch,
Aircraft Certification Service.



2018-22-08 Bombardier, Inc.: Amendment 39-19481; Docket No. FAA-2018-0585; Product Identifier 2018-NM-070-AD.

(a) Effective Date

This AD is effective December 10, 2018.

(b) Affected ADs

None.

(c) Applicability

This AD applies to Bombardier, Inc., Model BD-700-1A10 and BD-700-1A11 airplanes, certificated in any category, serial numbers 9001 through 9839 inclusive, and serial number 9998.

(d) Subject

Air Transport Association (ATA) of America Code 26, Fire protection.

(e) Reason

This AD was prompted by reports that non-conforming FIREX squib wire harness connectors may have been installed, which could result in FIREX squib wire harness connectors being connected to the wrong FIREX bottle connectors on affected aircraft. We are issuing this AD to address this wiring discrepancy, which, in the event of an engine fire, could result in misrouting the supply of fire extinguishing agent to the wrong engine, or limit the supply from both FIREX bottles to only one engine, which could result in the inability to extinguish an engine fire.

(f) Compliance

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

(g) Required Actions

Within 1,000 flight hours or 15 months, whichever occurs first, after the effective date of this AD, perform a visual inspection for correct connections between the FIREX squib wire harness connectors and FIREX bottle connectors, and install split ring lanyards on the FIREX squib wire harness connectors, in accordance with the Accomplishment Instructions of the applicable service information listed in figure 1 to paragraph (g) of this AD. If any incorrect connections are found: Before further flight, re-connect the connectors to the appropriate mating connectors and do an operational test of the fire extinguishing system, in accordance with the Accomplishment Instructions of the applicable service information specified in figure 1 to paragraph (g) of this AD.

Figure 1 to paragraph (g) of this AD – Service Information Applicability

Airplane Model	Bombardier Service Information
BD-700-1A10	Service Bulletin 700-26-011, Revision 03, dated August 24, 2018
BD-700-1A10	Service Bulletin 700-26-6003, Revision 03, dated August 24, 2018
BD-700-1A11	Service Bulletin 700-1A11-26-004, Revision 03, dated August 24, 2018
BD-700-1A11	Service Bulletin 700-26-5003, Revision 03, dated August 24, 2018

(h) Credit for Previous Actions

This paragraph provides credit for actions required by paragraph (g) of this AD, if those actions were performed before the effective date of this AD using the applicable service information listed in paragraphs (h)(1) through (h)(12) of this AD.

- (1) Bombardier Service Bulletin 700-1A11-26-004, dated December 28, 2017.
- (2) Bombardier Service Bulletin 700-1A11-26-004, Revision 01, dated February 15, 2018.
- (3) Bombardier Service Bulletin 700-1A11-26-004, Revision 02, dated July 27, 2018.
- (4) Bombardier Service Bulletin 700-26-011, dated December 28, 2017.
- (5) Bombardier Service Bulletin 700-26-011, Revision 01, dated February 15, 2018.
- (6) Bombardier Service Bulletin 700-26-011, Revision 02, dated July 27, 2018.
- (7) Bombardier Service Bulletin 700-26-5003, dated December 28, 2017.
- (8) Bombardier Service Bulletin 700-26-5003, Revision 01, dated February 15, 2018.
- (9) Bombardier Service Bulletin 700-26-5003, Revision 02, dated July 27, 2018.
- (10) Bombardier Service Bulletin 700-26-6003, dated December 28, 2017.
- (11) Bombardier Service Bulletin 700-26-6003, Revision 01, dated February 15, 2018.
- (12) Bombardier Service Bulletin 700-26-6003, Revision 02, dated July 27, 2018.

(i) Other FAA AD Provisions

The following provisions also apply to this AD:

(1) **Alternative Methods of Compliance (AMOCs):** The Manager, New York ACO Branch, 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 certification office, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; fax 516-794-5531. 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.

(2) **Contacting the Manufacturer:** For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, New York ACO Branch, FAA; or Transport Canada Civil Aviation (TCCA); or Bombardier, Inc.'s TCCA Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

(j) Related Information

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian AD CF-2018-08R1, dated March 2, 2018, for related information. This MCAI may be found in the AD docket on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0585.

(2) For more information about this AD, contact John DeLuca, Aerospace Engineer, Avionics and Electrical Systems Services Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7369; fax 516-794-5531; email 9-avs-nyaco-cos@faa.gov.

(k) 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 this AD specifies otherwise.

(i) Bombardier Service Bulletin 700-1A11-26-004, Revision 03, dated August 24, 2018.

(ii) Bombardier Service Bulletin 700-26-011, Revision 03, dated August 24, 2018.

(iii) Bombardier Service Bulletin 700-26-5003, Revision 03, dated August 24, 2018.

(iv) Bombardier Service Bulletin 700-26-6003, Revision 03, dated August 24, 2018.

(3) For service information identified in this AD, contact Bombardier, Inc., 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; telephone 514-855-5000; fax 514-855-7401; email thd.crj@aero.bombardier.com; internet <http://www.bombardier.com>.

(4) You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) 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 Des Moines, Washington, on October 22, 2018.

Michael Kaszycki,
Acting Director, System Oversight Division,
Aircraft Certification Service.



FAA
Aviation Safety

AIRWORTHINESS DIRECTIVE

www.faa.gov/aircraft/safety/alerts/
www.gpoaccess.gov/fr/advanced.html

2018-22-09 The Boeing Company: Amendment 39-19482; Docket No. FAA-2018-0027; Product Identifier 2017-NM-118-AD.

(a) Effective Date

This AD is effective December 10, 2018.

(b) Affected ADs

None.

(c) Applicability

This AD applies to all The Boeing Company Model 787 series airplanes, certificated in any category.

(d) Subject

Air Transport Association (ATA) of America Code 34, Navigation.

(e) Unsafe Condition

This AD was prompted by reports that under certain conditions the automatic dependent surveillance-broadcast (ADS-B) out and air traffic control (ATC)/traffic alert and collision avoidance system (TCAS) functions can transmit incorrect position and pressure altitude information in the data that is used by ATC to coordinate aircraft separation. We are issuing this AD to address the transmission of incorrect position and pressure altitude data, which could result in potential mid-air collisions.

(f) Compliance

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

(g) Inspection or Records Review

For airplanes that have an original certificate of airworthiness or export certificate of airworthiness issued on or before the effective date of this AD: Within 12 months after the effective date of this AD, inspect to determine if integrated surveillance system (ISS) operational program software (OPS) part number (P/N) COL40-0010-0100 or COL46-0007-0100 is installed. A review of airplane maintenance records is acceptable in lieu of this inspection if the part number of the software can be conclusively determined from that review.

(h) Required Actions

If, during any inspection or records review required by paragraph (g) of this AD, any ISS OPS P/N COL40-0010-0100 or COL46-0007-0100 is found: Within 12 months after the effective date of this AD, do all applicable actions identified as “RC” (required for compliance) in, and in accordance with, the Accomplishment Instructions of Boeing Alert Service Bulletin B787-81205-SB340036-00, Issue 001, dated June 30, 2017; except where Boeing Alert Service Bulletin B787-81205-SB340036-00, Issue 001, dated June 30, 2017, specifies installing software P/Ns COL41-0010-0101 and COL44-0007-0102, this AD requires installing P/Ns COL41-0010-0101 and COL44-0007-0102, or later-approved software versions. Later-approved software versions are only those Boeing software versions that are approved as a replacement for the applicable software, and are approved as part of the type design by the FAA or the Boeing Commercial Airplanes Organization Designation Authorization (ODA) after issuance of Boeing Alert Service Bulletin B787-81205-SB340036-00, Issue 001, dated June 30, 2017.

(i) Additional Actions for Group 1 Airplanes

For Group 1 airplanes identified in Boeing Alert Service Bulletin B787-81205-SB340036-00, Issue 001, dated June 30, 2017: Prior to accomplishment of the actions required by paragraph (h) of this AD, install new software for the ISS OPS, ISS option selection software (OSS) file, and ISS airline selectable option (ASO) file; and install a new ISS definition file database within the displays and crew alerting (DCA) system; in accordance with the Accomplishment Instructions of Boeing Service Bulletin B787-81205-SB340005-00, Issue 002, dated April 27, 2016; except where Boeing Service Bulletin B787-81205-SB340005-00, Issue 002, dated April 27, 2016, specifies installing certain software, this AD requires installing that software or later-approved software versions. Later-approved software versions are only those Boeing software versions that are approved as a replacement for the applicable software, and are approved as part of the type design by the FAA or the Boeing Commercial Airplanes ODA after issuance of Boeing Service Bulletin B787-81205-SB340005-00, Issue 002, dated April 27, 2016.

(j) Parts Installation Prohibition

As of the effective date of this AD, no person may install ISS OPS part number COL40-0010-0100 or COL46-0007-0100 on any airplane, except in accomplishment of the actions required by paragraph (i) of this AD.

(k) Credit for Previous Actions

This paragraph provides credit for the actions specified in paragraph (i) of this AD, if those actions were performed before the effective date of this AD using Boeing Service Bulletin B787-81205-SB340005-00, Issue 001, dated December 11, 2015.

(l) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Seattle ACO Branch, 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 certification office, 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, modification, or alteration required by this AD if it is approved by the Boeing Commercial Airplanes ODA that has been authorized by the Manager, Seattle ACO Branch, to make those findings. To be approved, the repair method, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(4) For service information that contains steps that are labeled as RC, the provisions of paragraphs (l)(4)(i) and (l)(4)(ii) of this AD apply.

(i) The steps labeled as RC, including substeps under an RC step and any figures identified in an RC step, must be done to comply with the AD. If a step or substep is labeled "RC Exempt," then the RC requirement is removed from that step or substep. An AMOC is required for any deviations to RC steps, including substeps and identified figures.

(ii) Steps not labeled as RC may be deviated from using accepted methods in accordance with the operator's maintenance or inspection program without obtaining approval of an AMOC, provided the RC steps, including substeps and identified figures, can still be done as specified, and the airplane can be put back in an airworthy condition.

(m) Related Information

(1) For more information about this AD, contact Nelson O. Sanchez, Aerospace Engineer, Systems and Equipment Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3543; email: nelson.sanchez@faa.gov.

(2) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (n)(3) and (n)(4) 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) Boeing Alert Service Bulletin B787-81205-SB340036-00, Issue 001, dated June 30, 2017.

(ii) Boeing Service Bulletin B787-81205-SB340005-00, Issue 002, dated April 27, 2016.

(3) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; internet <https://www.myboeingfleet.com>.

(4) You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) 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 Des Moines, Washington, on October 22, 2018.

Michael Kaszycki,
Acting Director, System Oversight Division,
Aircraft Certification Service.



2018-22-10 The Boeing Company: Amendment 39-19483; Docket No. FAA-2018-0510; Product Identifier 2017-NM-115-AD.

(a) Effective Date

This AD is effective December 12, 2018.

(b) Affected ADs

(1) This AD replaces AD 2016-04-16, Amendment 39-18410 (81 FR 12806, March 11, 2016) (“AD 2016-04-16”).

(2) This AD affects AD 2002-13-10, Amendment 39-12798 (67 FR 45053, July 8, 2002) (“AD 2002-13-10”).

(3) This AD affects AD 2003-07-14, Amendment 39-13110 (68 FR 17544, April 10, 2003) (“AD 2003-07-14”).

(4) This AD affects AD 2008-06-21 R1, Amendment 39-16100 (74 FR 61504, November 25, 2009) (“AD 2008-06-21 R1”).

(5) This AD affects AD 2011-11-05, Amendment 39-16704 (76 FR 31462, June 1, 2011) (“AD 2011-11-05”).

(c) Applicability

This AD applies to all The Boeing Company airplanes identified in paragraphs (c)(1) and (c)(2) of this AD, certificated in any category.

(1) Model DC-10-10, DC-10-10F, DC-10-15, DC-10-30, DC-10-30F (KC-10A and KDC-10), DC-10-40, and DC-10-40F airplanes.

(2) Model MD-10-10F, MD-10-30F, MD-11, and MD-11F airplanes.

(d) Subject

Air Transport Association (ATA) of America Code 28, Fuel.

(e) Unsafe Condition

This AD was prompted by a fuel system review conducted by the manufacturer. We are issuing this AD to address the potential of ignition sources inside fuel tanks, which, in combination with flammable fuel vapors, could result in fuel tank explosions and consequent loss of the airplane.

(f) Compliance

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

(g) Restatement of Paragraph (g) of AD 2016-04-16, With No Changes

This paragraph restates the requirements of paragraph (g) of AD 2016-04-16, with no changes. Except as provided by paragraph (h) of this AD: As of 48 months after April 15, 2016 (the effective date of AD 2016-04-16), no person may operate any airplane affected by this AD unless an amended type certificate or supplemental type certificate that incorporates the design features and requirements described in paragraphs (g)(1) through (g)(4) of this AD has been approved by the Manager, Los Angeles ACO Branch, FAA, and those design features are installed on the airplane to meet the criteria specified in section 25.981(a) and (d) of the Federal Aviation Regulations (14 CFR 25.981(a) and (d), at Amendment 25-125

(http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgFAR.nsf/0/339DAEE3E0A6379D862574CF00641951?OpenDocument)). For airplanes on which Boeing-installed auxiliary fuel tanks are removed, the actions specified in this AD for the auxiliary fuel tanks are not required.

(1) For all airplanes: Each electrically powered alternating current (AC) fuel pump installed in any fuel tank that normally empties during flight and each pump that is partially covered by a lowering fuel level—such as main tanks, center wing tanks, auxiliary fuel tanks installed by the airplane manufacturer, and tail tanks—must have a protective device installed to detect electrical faults that can cause arcing and burn through of the fuel pump housing and pump electrical connector. The same device must shut off the pump by automatically removing electrical power from the pump when such faults are detected. When a fuel pump is shut off resulting from detection of an electrical fault, the device must stay latched off, until the fault is cleared through maintenance action and the pump is verified safe for operation.

(2) For airplanes with a 2-person flightcrew: Additional design features, if not originally installed by the airplane manufacturer, must be installed to meet 3 criteria: To detect a running fuel pump in a tank that is normally emptied during flight, to provide an indication to the flightcrew that the tank is empty, and to automatically shut off that fuel pump. The prospective pump indication and shutoff system must automatically shut off each pump in case the flightcrew does not shut off a pump running dry in an empty tank within 60 seconds after each fuel tank is emptied. An airplane flight manual supplement (AFMS) that includes flightcrew manual pump shutoff procedures in the Limitations section of the AFMS must be submitted to the Los Angeles ACO Branch, FAA, for approval.

(3) For airplanes with a 3-person flightcrew: Additional design features, if not originally installed by the airplane manufacturer, must be installed to detect when a fuel pump in a tank that is normally emptied during flight is running in an empty fuel tank, and to provide an indication to the flightcrew that the tank is empty. The flight engineer must manually shut off each pump running dry in an empty tank within 60 seconds after the tank is emptied. The AFMS Limitations section must be revised to specify that this pump shutoff must be done by the flight engineer.

(4) For all airplanes with tanks that normally empty during flight: Separate means must be provided to detect and shut off a pump that was previously commanded to be shut off automatically or manually but remained running in an empty tank during flight.

(h) Restatement of Paragraph (h) of AD 2016-04-16, With No Changes

This paragraph restates the provisions of paragraph (h) of AD 2016-04-16, with no changes. In lieu of doing the requirements of paragraph (g) of this AD, do the applicable actions specified in paragraphs (h)(1), (h)(2), and (h)(3) of this AD.

(1) For MD-11 and MD-11F airplanes: Do the actions specified in paragraphs (h)(1)(i) and (h)(1)(ii) of this AD.

(i) As of 48 months after April 15, 2016 (the effective date of AD 2016-04-16), change the fuel pump control and indication system wiring, in accordance with the Accomplishment Instructions of Boeing Service Bulletin MD11-28-137, dated June 24, 2014.

(ii) Prior to or concurrently with accomplishing the actions specified in paragraph (h)(1)(i) of this AD: Replace the fuel pump control relays with fault current detectors, and change the fuel tank

boost/transfer pump wire termination, in accordance with Accomplishment Instructions of Boeing Alert Service Bulletin MD11-28A133, dated June 5, 2014.

(2) For Model DC-10-10, DC-10-10F, DC-10-15, DC-10-30, DC-10-30F (KC-10A and KDC-10), DC-10-40, DC-10-40F, MD-10-10F, and MD-10-30F airplanes: Do the actions specified in paragraphs (h)(2)(i) and (h)(2)(ii) of this AD.

(i) As of 48 months after April 15, 2016 (the effective date of AD 2016-04-16), change the fuel pump control and indication system wiring, in accordance with the Accomplishment Instructions of Boeing Service Bulletin DC10-28-256, dated June 24, 2014.

(ii) Prior to or concurrently with accomplishing the actions specified in paragraph (h)(2)(i) of this AD: Replace the fuel pump control relays with fault current detectors, and change the fuel tank boost/transfer pump wire termination, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin DC10-28A253, dated June 5, 2014.

(3) For all airplanes: Within 30 days after accomplishing the actions required by paragraph (h)(1) or (h)(2) of this AD, or within 30 days after April 15, 2016 (the effective date of AD 2016-04-16), whichever occurs later, revise the maintenance or inspection program, as applicable, to incorporate the Critical Design Configuration Control Limitations (CDCCLs), Airworthiness Limitation Instructions (ALIs), and short-term extensions specified in Appendices B, C, and D of Boeing Trijet Special Compliance Item (SCI) Report MDC-02K1003, Revision M, dated July 25, 2014. The initial compliance time for accomplishing the actions specified in the ALIs is at the later of the times specified in paragraphs (h)(3)(i) and (h)(3)(ii) of this AD. Revising the maintenance or inspection program required by this paragraph terminates the requirements in paragraphs (g) and (h) of AD 2008-06-21 R1.

(i) At the applicable time specified in Appendix C of Boeing Trijet SCI Report MDC-02K1003, Revision M, dated July 25, 2014, except as provided by Appendix D of Boeing Trijet SCI Report MDC-02K1003, Revision M, dated July 25, 2014.

(ii) Within 30 days after accomplishing the actions required by paragraph (h)(1) or (h)(2) of this AD, as applicable; or within 30 days after April 15, 2016 (the effective date of AD 2016-04-16); whichever occurs later.

(i) Restatement of Paragraph (i) of AD 2016-04-16, With No Changes

This paragraph restates the requirements of paragraph (i) of AD 2016-04-16, with no changes. If the option in paragraph (h)(3) of this AD is accomplished: After the maintenance or inspection program has been revised as provided by paragraph (h)(3) of this AD, no alternative actions (e.g., inspections), 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 (m) of this AD.

(j) Restatement of Paragraph (j) of AD 2016-04-16, With Additional AD Reference and Clarification of Provisions

This paragraph restates the provisions of paragraph (j) of AD 2016-04-16, with an additional AD reference and clarification of the provisions. Accomplishment of the actions specified in paragraphs (h)(1), (h)(2), and (h)(3) of this AD, as applicable, extends the 18-month interval for the repetitive inspections and tests required by paragraph (a) of AD 2002-13-10; the 18-month interval for the repetitive inspections required by paragraph (a) of AD 2003-07-14; and the 18-month interval for the repetitive inspections required by paragraph (j) of AD 2011-11-05; to 24-month intervals for pumps affected by those ADs, regardless if the pump is installed in a tank that normally empties, provided the remaining actions required by those three ADs have been accomplished.

(k) New Provision of This AD: Optional Terminating Action

For airplanes on which the actions specified in paragraph (h)(1)(ii) or (h)(2)(ii) have been done: Replacing the electrical connectors or fuel pump housing in accordance with the Accomplishment Instructions of Boeing Service Bulletin DC10-28-264, dated May 15, 2015; or Boeing Service Bulletin MD11-28-146, dated May 15, 2015, as applicable; terminates the repetitive inspections and tests required by paragraph (a) of AD 2002-13-10, paragraph (a) of AD 2003-07-14, and paragraph (j) of AD 2011-11-05.

(l) New Provision of This AD: Optional Revision

(1) In lieu of accomplishing the revision specified in paragraph (h)(3) of this AD: Within the compliance time specified in paragraph (h)(3) of this AD, operators may revise the maintenance or inspection program, as applicable, to incorporate the CDCCLs, ALIs, and short-term extensions specified in Appendices B, C, and D of Boeing Trijet Special Compliance Item Report MDC-02K1003, Revision R, dated May 9, 2018. The initial compliance time for accomplishing the actions specified in the ALIs is at the later of the times specified in paragraphs (l)(1)(i) and (l)(1)(ii) of this AD. Revising the maintenance or inspection program specified in this paragraph terminates the requirements in paragraphs (g) and (h) of AD 2008-06-21 R1.

(i) At the applicable time specified in Appendix C of Boeing Trijet Special Compliance Item Report MDC-02K1003, Revision R, dated May 9, 2018, except as provided by Appendix D of Boeing Trijet Special Compliance Item Report MDC-02K1003, Revision R, dated May 9, 2018.

(ii) Within 30 days after accomplishing the actions required by paragraph (h)(1) or (h)(2) of this AD, as applicable; or within 30 days after the effective date of this AD; whichever occurs later.

(2) If the optional revision specified in paragraph (l)(1) of this AD is accomplished: After the maintenance or inspection program has been revised as provided by paragraph (1)(1) of this AD, no alternative actions (e.g., inspections), intervals, or CDCCLs may be used unless the actions, intervals, or CDCCLs are approved as an AMOC in accordance with the procedures specified in paragraph (m) of this AD.

(m) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Los Angeles ACO Branch, 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 certification office, send it to the attention of the person identified in paragraph (n) of this AD. Information may be emailed to: 9-ANM-LAACO-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, modification, or alteration required by this AD if it is approved by the Boeing Commercial Airplanes Organization Designation Authorization (ODA) that has been authorized by the Manager, Los Angeles ACO Branch, FAA, to make those findings. To be approved, the repair method, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(4) For service information that contains steps that are labeled as Required for Compliance (RC), the provisions of paragraphs (m)(4)(i) and (m)(4)(ii) of this AD apply.

(i) The steps labeled as RC, including substeps under an RC step and any figures identified in an RC step, must be done to comply with the AD. If a step or substep is labeled "RC Exempt," then the

RC requirement is removed from that step or substep. An AMOC is required for any deviations to RC steps, including substeps and identified figures.

(ii) Steps not labeled as RC may be deviated from using accepted methods in accordance with the operator's maintenance or inspection program without obtaining approval of an AMOC, provided the RC steps, including substeps and identified figures, can still be done as specified, and the airplane can be put back in an airworthy condition.

(n) Related Information

For more information about this AD, contact Serj Harutunian, Aerospace Engineer, Propulsion Section, FAA, Los Angeles ACO Branch, 3960 Paramount Boulevard, Lakewood, CA 90712-4137; phone: 562-627-5254; fax: 562-627-5210; email: serj.harutunian@faa.gov.

(o) 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.

(3) The following service information was approved for IBR on December 12, 2018.

(i) Boeing Service Bulletin DC10-28-264, dated May 15, 2015.

(ii) Boeing Service Bulletin MD11-28-146, dated May 15, 2015.

(iii) Boeing Trijet Special Compliance Item Report MDC-02K1003, Revision R, including Appendices A through D, dated May 9, 2018.

(4) The following service information was approved for IBR on April 15, 2016 (81 FR 12806, March 11, 2016).

(i) Boeing Alert Service Bulletin DC10-28A253, dated June 5, 2014.

(ii) Boeing Service Bulletin DC10-28-256, dated June 24, 2014.

(iii) Boeing Alert Service Bulletin MD11-28A133, dated June 5, 2014.

(iv) Boeing Service Bulletin MD11-28-137, dated June 24, 2014.

(v) Boeing Trijet Special Compliance Item Report MDC-02K1003, Revision M, including Appendices A through D, dated July 25, 2014.

(5) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone: 562-797-1717; internet: <https://www.myboeingfleet.com>.

(6) You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(7) 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 Des Moines, Washington, on October 24, 2018.

Michael Kaszycki,
Acting Director, System Oversight Division,
Aircraft Certification Service.



2018-22-12 Bombardier, Inc: Amendment 39-19485; Docket No. FAA-2018-0551; Product Identifier 2018-NM-023-AD.

(a) Effective Date

This AD is effective December 12, 2018.

(b) Affected ADs

None.

(c) Applicability

This AD applies to Bombardier, Inc., Model CL-600-2C10 (Regional Jet Series 700, 701, & 702) airplanes, serial numbers 10002 and subsequent; Model CL-600-2D15 (Regional Jet Series 705) airplanes and Model CL-600-2D24 (Regional Jet Series 900) airplanes, serial numbers 15001 and subsequent; and Model CL-600-2E25 (Regional Jet Series 1000) airplanes, serial numbers 19001 and subsequent; certificated in any category.

(d) Subject

Air Transport Association (ATA) of America Code 32, Landing gear.

(e) Reason

This AD was prompted by reports of damage to the protective coating and corrosion found on the piston/axle of the main landing gear (MLG), caused by friction between the inboard axle sleeve and the axle thrust face. We are issuing this AD to address such damage, which could cause the axle to separate from the piston/axle, and ultimately lead to collapse of the landing gear during ground maneuvers or upon landing.

(f) Compliance

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

(g) Maintenance or Inspection Program Revision

Within 30 days after the effective date of this AD: Revise the maintenance or inspection program, as applicable, by incorporating CRJ Series Regional Jet Temporary Revision (TR) MRB-0059, dated March 20, 2015. The applicable maintenance or inspection program revision required by this paragraph may be done by inserting a copy of CRJ Series Regional Jet TR MRB-0059, dated March 20, 2015, into the maintenance requirements manual (MRM). When the information in CRJ Series Regional Jet TR MRB-0059, dated March 20, 2015, has been included in the general revisions of the MRM, the general revisions may be inserted in the MRM, and this TR may be removed,

provided the relevant information in the general revision is identical to that in CRJ Series Regional Jet TR MRB-0059, dated March 20, 2015. The initial time for the task is at the applicable time specified in figure 1 to paragraphs (g) and (h) of this AD. Information used for determining the entry into service date can be found in paragraph (h) of this AD.

Figure 1 to paragraphs (g) and (h) of this AD – Compliance Time Requirements

Time since piston/axle entry into service	Compliance time to perform initial inspection task
More than 48 months since entry into service, as of the effective date of this AD	Within 12 months from the effective date of this AD
More than 24 months but less than or equal to 48 months since entry into service, as of the effective date of this AD	Within 24 months from the effective date of this AD but before reaching 60 months total piston/axle time in-service
Less than or equal to 24 months since entry into service, as of the effective date of this AD	Within 36 months from the effective date of this AD but before reaching 48 months total piston/axle time in-service

(h) Information for Calculating Time Since Piston/Axle Entry Into Service Date

The entry into service date (first column of figure 1 to paragraphs (g) and (h) of this AD) can be calculated from the date of the latest inspection, restoration, or repair accomplished as specified in the service information listed in paragraphs (h)(1) through (h)(3) of this AD, as applicable.

(1) Inspected as specified in one of the following Bombardier Service Bulletins specified in paragraphs (h)(1)(i) through (h)(1)(iv) of this AD.

- (i) Bombardier Service Bulletin 670BA-32-048, dated August 29, 2014.
- (ii) Bombardier Service Bulletin 670BA-32-048, Revision A, dated September 5, 2014.
- (iii) Bombardier Service Bulletin 670BA-32-048, Revision B, dated September 2, 2015.
- (iv) Bombardier Service Bulletin 670BA-32-048, Revision C, dated July 11, 2018.

(2) Restored as specified in Bombardier Task Number 320100-210, of the Bombardier CRJ Series Regional Jet MRM, Part 1, CSP B-053.

(3) Repaired as specified in one or more of the Bombardier repair engineering orders (REO) specified in paragraphs (h)(3)(i) through (h)(3)(v) of this AD.

- (i) Bombardier REO 670-32-11-313, Revision A, dated March 18, 2014.
- (ii) Bombardier REO 670-32-11-361, dated July 30, 2014.
- (iii) Bombardier REO 670-32-11-361, Revision A, dated May 31, 2018.
- (iv) Bombardier REO 698-32-11-008, dated July 30, 2014.
- (v) Bombardier REO 698-32-11-008, Revision A, dated May 31, 2018.

(i) No Alternative Actions or Intervals

After the maintenance or inspection program has been revised, as required by paragraph (g) of this AD, no alternative actions (e.g., inspections) or intervals may be used unless the actions or intervals are approved as an alternative method of compliance (AMOC) in accordance with the procedures specified in paragraph (j)(1) of this AD.

(j) Other FAA AD Provisions

The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, New York ACO Branch, 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 certification office, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; fax 516-794-5531. 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.

(2) Contacting the Manufacturer: For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, New York ACO Branch, FAA; or Transport Canada Civil Aviation (TCCA); or Bombardier, Inc.'s TCCA Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

(k) Related Information

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian AD CF-2017-38, dated December 20, 2017, for related information. This MCAI may be found in the AD docket on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0551.

(2) For more information about this AD, contact Darren Gassetto, Aerospace Engineer, Mechanical Systems and Administrative Services Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7323; fax 516-794-5531; email 9-avs-nyaco-cos@faa.gov.

(3) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (l)(3) and (l)(4) of this AD.

(l) 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 this AD specifies otherwise.

(i) CRJ Series Regional Jet Temporary Revision (TR) MRB-0059, dated March 20, 2015.

(ii) [Reserved]

(3) For service information identified in this AD, contact Bombardier, Inc., 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; Widebody Customer Response Center North America toll-free telephone 1-866-538-1247 or direct-dial telephone 1-514-855-2999; fax 514-855-7401; email ac.yul@aero.bombardier.com; internet <http://www.bombardier.com>.

(4) You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) 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 Des Moines, Washington, on October 25, 2018.
Michael Kaszycki,
Acting Director, System Oversight Division,
Aircraft Certification Service.



2018-22-13 Airbus SAS: Amendment 39-19486; Docket No. FAA-2018-0908; Product Identifier 2018-NM-136-AD.

(a) Effective Date

This AD becomes effective November 23, 2018.

(b) Affected ADs

None.

(c) Applicability

This AD applies to Airbus SAS Model A350-941 and -1041 airplanes, certificated in any category, except those on which the modifications specified in paragraph (c)(1) or (c)(2) of this AD, as applicable, have been embodied in production.

- (1) Airbus modifications 113759 and 113758.
- (2) Airbus modifications 113760 and 113758.

(d) Subject

Air Transport Association (ATA) of America Code 27, Flight controls.

(e) Reason

This AD was prompted by a technical issue detected on the inboard aileron electro-hydrostatic actuators that caused potential erroneous monitoring of those actuators. We are issuing this AD to address possible in-flight loss of inboard aileron control, consequent increased fuel consumption due to the resulting drag, and reduced control or performance of the airplane if one engine is also inoperative.

(f) Compliance

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

(g) Revision of the Airplane Flight Manual (AFM)

Within 30 days after the effective date of this AD, revise the Abnormal Procedures section of the AFM to include the information in Airbus A350 Temporary Revision (TR) 113, Issue 1.0, dated July 27, 2018, which introduces updated procedures related to inboard aileron fault operations. This may be done by inserting a copy of TR 113, Issue 1.0, dated July 27, 2018, into the AFM. When TR 113, Issue 1.0, dated July 27, 2018, has been included in general revisions of the AFM, the general revisions may be inserted into the AFM, provided the relevant information in the general revisions is identical to that in TR 113, Issue 1.0, dated July 27, 2018, and the TR may be removed. Operate the

airplane according to the procedures in TR 113, Issue 1.0, dated July 27, 2018. In case any discrepancy is identified between procedures displayed on the electronic centralized aircraft monitoring (ECAM) and procedures stated in the applicable AFM, the AFM procedures prevail.

(h) Other FAA AD Provisions

The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, International Section, Transport Standards Branch, 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 International Section, send it to the attention of the person identified in paragraph (i)(2) of this AD. Information may be emailed to 9-ANM-116-AMOC-REQUESTS@faa.gov. 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.

(2) Contacting the Manufacturer: For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, International Section, Transport Standards Branch, FAA; or the European Aviation Safety Agency (EASA); or Airbus SAS's EASA Design Organization Approval (DOA). If approved by the DOA, the approval must include the DOA-authorized signature.

(3) Required for Compliance (RC): If any service information contains procedures or tests that are identified as RC, those procedures and tests must be done to comply with this AD; any procedures or tests that are not identified as RC are recommended. Those procedures and tests that are not identified as RC may be deviated from using accepted methods in accordance with the operator's maintenance or inspection program without obtaining approval of an AMOC, provided the procedures and tests identified as RC can be done and the airplane can be put back in an airworthy condition. Any substitutions or changes to procedures or tests identified as RC require approval of an AMOC.

(i) Related Information

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) EASA Airworthiness Directive 2018-0213, dated October 1, 2018, for related information. This MCAI may be found in the AD docket on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0908.

(2) For more information about this AD, contact Kathleen Arrigotti, Aerospace Engineer, International Section, Transport Standards Branch, FAA, 2200 South 216th St., Des Moines, WA 98198; telephone and fax 206-231-3218.

(j) 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 this AD specifies otherwise.

(i) Airbus A350 Temporary Revision (TR) 113, Issue 1.0, dated July 27, 2018.

(ii) Reserved.

(3) For service information identified in this AD, contact Airbus SAS, Airworthiness Office–EAL, Rond-Point Emile Dewoitine No: 2, 31700 Blagnac Cedex, France; telephone +33 5 61 93 36 96; fax +33 5 61 93 45 80; email continued-airworthiness.a350@airbus.com; internet <http://www.airbus.com>.

(4) You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) 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 Des Moines, Washington, on October 22, 2018.

Michael Kaszycki,
Acting Director, System Oversight Division,
Aircraft Certification Service.



2018-23-03 Airbus SAS: Amendment 39-19489; Docket No. FAA-2018-0589; Product Identifier 2018-NM-021-AD.

(a) Effective Date

This AD is effective December 14, 2018.

(b) Affected ADs

None.

(c) Applicability

This AD applies to the Airbus SAS airplanes identified in paragraphs (c)(1) through (c)(4) of this AD, certificated in any category, if modified by H4 Aerospace Supplemental Type Certificate (STC) ST03708NY or PMV Engineering STC ST03835NY.

- (1) Model A318-111, -112, -121, and -122 airplanes.
- (2) Model A319-111, -112, -113, -114, -115, -131, -132, and -133 airplanes.
- (3) Model A320-211, -212, -214, -231, -232, and -233 airplanes.
- (4) Model A321-111, -112, -131, -211, -212, -213, -231, and -232 airplanes.

(d) Subject

Air Transport Association (ATA) of America Code 34, Navigation.

(e) Reason

This AD was prompted by reports of false resolution advisories (RAs) from certain traffic collision avoidance systems (TCASs). We are issuing this AD to address the occurrence of false RAs from the TCAS, which could lead to a loss of separation from other airplanes, possibly resulting in a mid-air collision.

(f) Compliance

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

(g) Definition of an Affected TCAS Processor

For the purposes of this AD, an affected TCAS processor is defined as a Honeywell TPA-100B TCAS processor having part number (P/N) 940-0351-001.

(h) Modification or Replacement of TCAS Processor

Within 12 months after the effective date of this AD: Update the software of the affected TCAS processor and change the part number to P/N 940-0351-005, or replace the affected TCAS processor with a TPA-100B TCAS processor P/N 940-0351-005, in accordance with the Accomplishment Instructions of H4 Aerospace Service Bulletin H4ASB009, Issue 1, dated September 18, 2017; or PMV Engineering Service Bulletin AVI-00690-SB-S99-R01, Revision 01, dated October 5, 2017; as applicable.

Note 1 to paragraph (h) of this AD: Guidance for accomplishing the actions required by paragraph (h) of this AD can be found in Honeywell Service Bulletin 940-0351-34-0005, Revision 2, dated December 1, 2017.

(i) Parts Installation Prohibition

After modification or replacement of the TCAS processor as required by paragraph (h) of this AD, no person may install on that airplane an affected TCAS processor, as defined in paragraph (g) of this AD.

(j) Other FAA AD Provisions

The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, New York ACO Branch, 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 certification office, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; fax 516-794-5531. 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.

(2) Contacting the Manufacturer: For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, New York ACO Branch, FAA; or the European Aviation Safety Agency (EASA); or Airbus SAS's EASA Design Organization Approval (DOA). If approved by the DOA, the approval must include the DOA-authorized signature.

(k) Related Information

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) EASA AD 2017-0196, dated October 5, 2017, for related information. This MCAI may be found in the AD docket on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0589.

(2) For more information about this AD, contact Steven Dzierzynski, Aerospace Engineer, Avionics and Administrative Services Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7367; fax 516-794-5531.

(3) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (l)(3) and (l)(4) of this AD.

(l) 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 this AD specifies otherwise.

(i) H4 Aerospace Service Bulletin H4ASB009, Issue 1, dated September 18, 2017.

(ii) PMV Engineering Service Bulletin AVI-00690-SB-S99-R01, Revision 01, dated October 5, 2017.

(3) For service information identified in this AD, contact Honeywell Aerospace, Technical Publications and Distribution, M/S 2101-201, P.O. Box 52170, Phoenix, AZ 85072-2170; phone: 602-365-5535; fax: 602-365-5577; internet: <http://www.honeywell.com>.

(4) You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) 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 Des Moines, Washington, on October 26, 2018.

Michael Kaszycki,
Acting Director, System Oversight Division,
Aircraft Certification Service.



2018-23-05 Airbus SAS: Amendment 39-19491; Docket No. FAA-2018-0958; Product Identifier 2018-NM-139-AD.

(a) Effective Date

This AD becomes effective November 23, 2018.

(b) Affected ADs

None.

(c) Applicability

This AD applies to the Airbus SAS airplanes, certificated in any category, identified in paragraphs (c)(1) and (c)(2) of this AD.

(1) Model A350-941 airplanes, manufacturer serial numbers (MSNs) 203, 205, 208, 209, 210, 212, 213, 218, 219, 221, 227, 228, and 235.

(2) Model A350-1041 airplanes, MSN 188.

(d) Subject

Air Transport Association (ATA) of America Code 57, Wings.

(e) Reason

This AD was prompted by a report of a close gap between the wing lower cover (WLC) and wing rib feet. We are issuing this AD to address potential contact between the WLC and wing rib feet, which, combined with an empty fuel tank or fuel level below the wing rib foot area, could create an ignition source for the fuel vapor inside the tanks. In case of a lightning strike of high intensity in the immediate area, this condition could possibly result in ignition of the fuel-air mixture in the affected fuel tank and consequent loss of the airplane.

(f) Compliance

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

(g) Minimum Equipment List (MEL) Revision

Within 30 days after the effective date of this AD, revise the operator's MEL to prohibit dispatch of the airplane with any inoperative MEL item listed in figure 1 to paragraphs (g) and (i) of this AD.

Sequence No.	Item
21-09-01	AIR OVHT ON FUEL INERTING 1(2) Message.

21-09-03	AIR PRESS LO ON FUEL INERTING 1(2) Message.
21-50-01	Air conditioning Pack.
21-50-02C	Pack 1 Valve—Both valves inoperative.
21-50-03C	Pack 2 Valve—Both valves inoperative.
21-50-04B	Pack Flow Sensor—Both sensors inoperative on the same pack.
21-50-07C	Pack Ram Air Inlet Door—Associated pack considered inoperative.
21-50-08A	Pack Ram Air Outlet Door—Failed open.
21-50-08C	Pack Ram Air Outlet Door—Associated pack considered inoperative.
21-50-09B	Pack Control Channel—Both channels inoperative.
21-58-01	Fuel Inerting Inlet Valve.
21-58-02	Fuel Inerting Inlet Valve Flap.
21-58-03	Fuel Inerting Ram Air Outlet Flap.
21-58-04	Fuel Inerting Temperature Control Valve.
21-58-05	Fuel Inerting Turbine Valve.
21-60-02C	Hot Air Valve—Associated pack valves deactivated.
36-11-01	Engine Bleed Air System.
36-11-02	Engine Bleed Valve.
36-11-03	Engine Bleed Fan Air Valve.
36-11-04	Engine Bleed Overpressure Valve.
36-11-05A	Engine Bleed IP Check Valve—Associated Bleed Considered Inoperative.
36-11-09	Engine Bleed Control.
36-11-10	Engine Bleed Monitoring.
36-11-11	Engine Bleed Monitoring and Control.
36-11-12	Engine Bleed Temperature Redundancy.
42-11-06	CPIOM H43.
42-11-07	CPIOM H44.
42-41-16	CRDC B01.
42-41-17	CRDC B02.
42-41-18	CRDC B03.
42-41-20	CRDC B05.
42-41-21	CRDC B06.
47-10-01	FTIS.

(h) Inspection

Within 3 months after the effective date of this AD, accomplish a detailed inspection to detect discrepancies and structural damage at the wing rib foot locations specified in, and in accordance with Airbus Alert Operators Transmission A57P011-18, dated October 8, 2018.

(1) If any discrepancy is detected, do all applicable related investigative and corrective actions before further flight, in accordance with Airbus Alert Operators Transmission A57P011-18, dated October 8, 2018.

(2) If any structural damage is detected, before further flight obtain corrective actions approved by the Manager, International Section, Transport Standards Branch, FAA; or the European Aviation Safety Agency (EASA); or Airbus SAS's EASA Design Organization Approval (DOA) and accomplish the corrective actions within the compliance time specified therein. If approved by the DOA, the approval must include the DOA-authorized signature.

(i) Relief From MEL Restrictions

After accomplishment of the inspection and all applicable related investigative and corrective actions required by paragraph (h) of this AD on an operator's fleet, the MEL revision specified in paragraph (g) of this AD is no longer required by this AD, and the provisions for relief for the affected MEL items in figure 1 to paragraphs (g) and (i) of this AD may be restored, provided those items are not otherwise restricted by the existing master minimum equipment list (MMEL).

(j) Reporting Provisions

Although Airbus Alert Operators Transmission A57P011-18, dated October 8, 2018, specifies sending inspection results to Airbus, this AD does not require a report.

(k) Other FAA AD Provisions

The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, International Section, Transport Standards Branch, 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 International Section, send it to the attention of the person identified in paragraph (l)(2) of this AD. Information may be emailed to 9-ANM-116-AMOC-REQUESTS@faa.gov. 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.

(2) Contacting the Manufacturer: For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, International Section, Transport Standards Branch, FAA; or EASA; or Airbus SAS's EASA DOA. If approved by the DOA, the approval must include the DOA-authorized signature.

(3) Required for Compliance (RC): If any service information contains procedures or tests that are identified as RC, those procedures and tests must be done to comply with this AD; any procedures or tests that are not identified as RC are recommended. Those procedures and tests that are not identified as RC may be deviated from using accepted methods in accordance with the operator's maintenance or inspection program without obtaining approval of an AMOC, provided the procedures and tests identified as RC can be done and the airplane can be put back in an airworthy condition. Any substitutions or changes to procedures or tests identified as RC require approval of an AMOC.

(l) Related Information

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) EASA AD 2018-0220, dated October 12, 2018, for related information. This MCAI may be found in the AD docket on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0958.

(2) For more information about this AD, contact Kathleen Arrigotti, Aerospace Engineer, International Section, Transport Standards Branch, FAA, 2200 South 216th St., Des Moines, WA 98198; telephone and fax 206-231-3218.

(m) 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 this AD specifies otherwise.

(i) Airbus Alert Operators Transmission A57P011-18, dated October 8, 2018.

(ii) [Reserved]

(3) For service information identified in this AD, contact Airbus SAS, Airworthiness Office—EAL, Rond-Point Emile Dewoitine No: 2, 31700 Blagnac Cedex, France; telephone +33 5 61 93 36 96; fax +33 5 61 93 45 80; email continued-airworthiness.a350@airbus.com; internet <http://www.airbus.com>.

(4) You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) 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 Des Moines, Washington, on October 26, 2018.

Michael Kaszycki,
Acting Director, System Oversight Division,
Aircraft Certification Service.



FAA
Aviation Safety

EMERGENCY AIRWORTHINESS DIRECTIVE

www.faa.gov/aircraft/safety/alerts/

DATE: November 7, 2018

AD #: 2018-23-51

Emergency Airworthiness Directive (AD) 2018-23-51 is sent to owners and operators of The Boeing Company Model 737-8 and -9 airplanes.

Background

This emergency AD was prompted by analysis performed by the manufacturer showing that if an erroneously high single angle of attack (AOA) sensor input is received by the flight control system, there is a potential for repeated nose-down trim commands of the horizontal stabilizer. This condition, if not addressed, could cause the flight crew to have difficulty controlling the airplane, and lead to excessive nose-down attitude, significant altitude loss, and possible impact with terrain.

FAA's Determination

We are issuing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design. Due to the need to correct an urgent safety of flight situation, good cause exists to make this AD effective in less than 30 days.

AD Requirements

This AD requires revising certificate limitations and operating procedures of the airplane flight manual (AFM) to provide the flight crew with runaway horizontal stabilizer trim procedures to follow under certain conditions.

Interim Action

We consider this AD interim action. If final action is later identified, we might consider further rulemaking then.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

This AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has delegated the authority to issue ADs applicable to transport category airplanes and associated appliances to the Director of the System Oversight Division.

Presentation of the Actual AD

We are issuing this AD under 49 U.S.C. Section 44701 according to the authority delegated to me by the Administrator.

2018-23-51 The Boeing Company: Product Identifier 2018-NM-151-AD.

(a) Effective Date

This Emergency AD is effective upon receipt.

(b) Affected ADs

None.

(c) Applicability

This AD applies to all The Boeing Company Model 737-8 and -9 airplanes, certificated in any category.

(d) Subject

Air Transport Association (ATA) of America Code 27, Flight controls.

(e) Unsafe Condition

This AD was prompted by analysis performed by the manufacturer showing that if an erroneously high single angle of attack (AOA) sensor input is received by the flight control system, there is a potential for repeated nose-down trim commands of the horizontal stabilizer. We are issuing this AD to address this potential resulting nose-down trim, which could cause the flight crew to have difficulty controlling the airplane, and lead to excessive nose-down attitude, significant altitude loss, and possible impact with terrain.

(f) Compliance

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

(g) Revision of Airplane Flight Manual (AFM): Certificate Limitations

Within 3 days after receipt of this AD, revise the Certificate Limitations chapter of the applicable AFM to include the information in figure 1 to paragraph (g) of this AD.

Figure 1 to paragraph (g) of this AD – *Certificate Limitations***Required by AD 2018-23-51****Runaway Stabilizer**

In the event of an uncommanded horizontal stabilizer trim movement, combined with any of the following potential effects or indications resulting from an erroneous Angle of Attack (AOA) input, the flight crew must comply with the Runaway Stabilizer procedure in the Operating Procedures chapter of this manual:

- Continuous or intermittent stick shaker on the affected side only.
- Minimum speed bar (red and black) on the affected side only.
- Increasing nose down control forces.
- IAS DISAGREE alert.
- ALT DISAGREE alert.
- AOA DISAGREE alert (if the option is installed).
- FEEL DIFF PRESS light.
- Autopilot may disengage.
- Inability to engage autopilot.

(h) AFM Revision: Operating Procedures

Within 3 days after receipt of this AD, revise the Operating Procedures chapter of the applicable AFM to include the information in figure 2 to paragraph (h) of this AD.

Figure 2 to paragraph (h) of this AD – Operating Procedures

Required by AD 2018-23-51
<u>Runaway Stabilizer</u>
Disengage autopilot and control airplane pitch attitude with control column and main electric trim as required. If relaxing the column causes the trim to move, set stabilizer trim switches to CUTOUT. If runaway continues, hold the stabilizer trim wheel against rotation and trim the airplane manually.
Note: The 737-8/-9 uses a Flight Control Computer command of pitch trim to improve longitudinal handling characteristics. In the event of erroneous Angle of Attack (AOA) input, the pitch trim system can trim the stabilizer nose down in increments lasting up to 10 seconds.
In the event an uncommanded nose down stabilizer trim is experienced on the 737-8/-9, in conjunction with one or more of the indications or effects listed below, do the existing AFM Runaway Stabilizer procedure above, ensuring that the STAB TRIM CUTOUT switches are set to CUTOUT and stay in the CUTOUT position for the remainder of the flight.
An erroneous AOA input can cause some or all of the following indications and effects:
<ul style="list-style-type: none"> • Continuous or intermittent stick shaker on the affected side only. • Minimum speed bar (red and black) on the affected side only. • Increasing nose down control forces. • IAS DISAGREE alert. • ALT DISAGREE alert. • AOA DISAGREE alert (if the option is installed). • FEEL DIFF PRESS light. • Autopilot may disengage. • Inability to engage autopilot.
Initially, higher control forces may be needed to overcome any stabilizer nose down trim already applied. Electric stabilizer trim can be used to neutralize control column pitch forces before moving the STAB TRIM CUTOUT switches to CUTOUT. Manual stabilizer trim can be used before and after the STAB TRIM CUTOUT switches are moved to CUTOUT.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Seattle ACO Branch, 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 certification office, send it to the attention of the

person identified in paragraph (j) 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.

(j) Related Information

For further information about this AD, contact Douglas Tsuji, Senior Aerospace Engineer, Systems and Equipment Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3548; email: Douglas.Tsuji@faa.gov.

Issued in Des Moines, Washington, on November 7, 2018.

Original signed by
Chris Spangenberg,
Acting Director,
System Oversight Division,
Aircraft Certification Service.