



**FEDERAL AVIATION ADMINISTRATION
AIRWORTHINESS DIRECTIVES
LARGE AIRCRAFT**

BIWEEKLY 2010-16

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LARGE AIRCRAFT

| AD No. | Information | Manufacturer | Applicability |
|--------|-------------|--------------|---------------|
|--------|-------------|--------------|---------------|

Info: E - Emergency; COR - Correction; S - Supersedes; R - Revision; FR - Final Rule of Emergency

Biweekly 2010-01

| | | | |
|---------------|-----|--|---|
| 2008-04-11 R1 | | Boeing | 707-100 long body, -200, -100B long body, and -100B short body series airplanes; Model 707-300, -300B, -300C, and -400 series airplanes; and Model 720 and 720B |
| 2008-09-12 R1 | | Bombardier | CL-600-2B19 (Regional Jet Series 100 & 440) |
| 2008-10-09 R1 | | Boeing | 737-100, -200, -200C, -300, -400, and -500 |
| 2008-11-01 R1 | | Boeing | 767-200, -300, -300F, and -400ER |
| 2009-20-11 | Cor | Boeing | 737-300, -400, and -500 |
| 2009-24-11 | | General Electric | See AD |
| 2009-26-03 | | Boeing | See AD |
| 2009-26-04 | | Boeing | 737-600, -700, -700C, -800, and -900 |
| 2009-26-10 | | Airbus | A380-841, -842, and -861 |
| 2009-26-12 | | Engine Components, Inc. (ECi) | See AD |
| 2009-26-14 | | CONSTRUCCIONES AERONAUTICAS, S.A. (CASA) | CN-235, CN-235-100, CN-235-200, and CN-235-300 |
| 2009-26-15 | | Embraer | ERJ 170-100 LR, -100 STD, -100 SE, -100 SU, -200 LR, -200 STD, and -200 SU airplanes, certificated in any category, serial numbers 17000156 through 17000169 inclusive; and Model ERJ 190-100 LR, -100 IGW, -100 STD, -200 STD, -200 LR, and -200 IGW |
| 2009-26-16 | | McDonnell Douglas | MD-11 and MD-11F |
| 2009-26-17 | | MCDonnell | 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, and MD-10-10F and MD-10-30F |

Biweekly 2010-02

| | | | |
|---------------|--------------|-----------------------------------|--|
| 2008-10-06 R1 | | Boeing | 747-400, -400D, and -400F |
| 2008-10-10 R1 | | Boeing | 737-600, -700, -700C, -800, and -900 |
| 2009-26-06 | | Honeywell International Inc | Engine: ALF502L and ALF502R series, and LF507-1F and LF507-1H |
| 2009-26-09 | S 2007-05-16 | General Electric Company | Engine: CF34-1A, -3A, -3A1, -3A2, -3B, and -3B1 |
| 2010-01-01 | S 2006-05-02 | Boeing | 747-200F, 747-200C, 747-400, 747-400D, and 747-400F |
| 2010-01-04 | S 2009-24-11 | General Electric Company | Engine: CF34-1A, CF34-3A, CF34-3A1, CF34-3A2, CF34-3B, and CF34-3B1 |
| 2010-01-03 | | Fire Fighting Enterprises Limited | See AD |
| 2010-01-05 | | CFM International, S.A | Engine: See AD |
| 2010-01-06 | | Bombardier, Inc. | DHC-8-400, DHC-8-401, and DHC-8-402 |
| 2010-01-07 | | Airbus | A340-211, -212, -213, -311, -312, -313, -541, and -642 |
| 2010-01-08 | | Boeing | 737-600, -700, and -800 |
| 2010-01-09 | | Boeing | 737-300, -400, and -500 |
| 2010-01-11 | | Fokker Services B.V. | F.28 Mark 0070 and Mark 0100 |
| 2010-01-12 | | Embraer | ERJ 170-100 LR, -100 STD, -100 SE, -100 SU, -200 LR, -200 STD, and -200 SU |
| 2010-02-02 | | Dassault | Falcon 7X |
| 2010-02-03 | | Airbus | A340-211, -212, -213, -311, -312, and -313 |
| 2010-02-04 | | Boeing | 737-600, -700, -700C, -800, -900, and -900ER |

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| Biweekly 2010-03 | | | |
| 2009-21-10 R1 | | AVOX Systems and B/E Aerospace | Appliance: Oxygen cylinder assemblies |
| 2009-26-13 | | Airbus | A330-201, -202, -203, -223, -243, -301, -302, -303, -321, -322, -323, -341, -342, and -343, 340-211, -212, -213, -311, -312, and -313 |
| 2010-01-02 | S 2005-15-08 | Boeing | 747-100B SUD, -200B, -300, -400, and -400D |
| 2010-01-10 | S 2007-01-15 | Boeing | 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-200F, 747-300, 747SR, and 747SP |
| 2010-02-06 | | Sicma Aero Seat | Appliance: 90xx and 92xx series passenger seats |
| 2010-02-09 | | Airbus | A318 |
| 2010-02-10 | | Airbus | A330-201, -202, -203, -223, -243, -301, -302, -303, -321, -322, -323, -341, -342, and -343 series airplanes; Model A340-211, -212, -213, -311, -312, -313 series airplanes; and Model A340-541 and -642 |
| 2010-02-11 | | BAE Systems | BAe 146-100A, -200A, and -300A series airplanes; and BAE SYSTEMS (Operations) Limited Model Avro 146-RJ70A, 146-RJ85A, and 146-RJ100A |
| 2010-02-12 | | Fokker Services B.V | F.28 Mark 0070 and 0100 |
| Biweekly 2010-04 | | | |
| 2010-03-05 | | Boeing | 747-200C and -200F |
| 2010-03-07 | | Embraer | EMB-135BJ, EMB-135ER, -135KE, -135KL, -135LR, EMB-145, -145ER, -145MR, -145LR, -145XR, -145MP, and -145EP |
| 2010-03-08 | S 2003-03-02 | Boeing | 767-200, -300 and -300F |
| 2010-04-01 | | Dassault Aviation | Falcon 900EX |
| 2010-04-02 | | Airbus | A310-221, -222, -322, -324, and -325 airplanes, and Model A300 B4-620, B4-622, B4-622R, and F4-622R |
| 2010-04-03 | | Airbus | A310-203, -204, -221, -222, -304, -322, -324, and -325 |
| Biweekly 2010-05 | | | |
| 2009-06-05 R1 | | Bombardier, Inc | CL-600-1A11 (CL-600), CL-600-2A12 (CL-601), CL-600-2B16 (CL-601-3A & CL-601-3R), CL-600-2B16 (CL-604) |
| 2010-04-04 | | Bombardier, Inc | CL-600-2C10 (Regional Jet Series 700, 701, & 702), CL-600-2D15 (Regional Jet Series 705) |
| 2010-04-08 | | Embraer | ERJ 190-100 LR, -100 IGW, -100 STD, -200 STD, -200 LR, and -200 IGW |
| 2010-04-09 | | Airbus | A330-201, -202, -203, -223, and -243, A340-211, -212, and -213 airplanes; and Model A340-311, -312, and -313 |
| 2010-04-10 | S 2009-10-07 | Airbus | A380-841, -842, and -861 |
| 2010-04-13 | | Airbus | A310-203, A310-221, and A310-222, A300 F4-605R and A300 F4-622R |
| 2010-04-16 | | SICLI | Appliance: Portable fire extinguishers |
| 2010-05-01 | | ATR-GIE Avions de Transport Régional | ATR42-200, -300, -320, and -500 airplanes; and Model ATR72-101, -201, -102, -202, -211, -212, and -212A |
| 2010-05-04 | | McDonnell Douglas Corporation | MD-90-30 |
| 2010-05-05 | S 2007-15-08 | BAE Systems | ATP |
| 2010-05-06 | | Airbus | A340-541 and -642 |
| 2010-05-07 | | Airbus | A340-211, -212, and -213 airplanes; and Model A340-311, -312, and -313 |

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| Info: E - Emergency; COR - Correction; S - Supersedes; R - Revision; FR - Final Rule of Emergency | | | |
| Biweekly 2010-06 | | | |
| 2009-22-05 | S 2008-23-16 | Bombardier, Inc. | CL-600-2B19 (Regional Jet Series 100 & 440) |
| 2010-04-09 | COR | Airbus | A330-201, -202, -203, -223, and -243, A340-211, -212, and -213 airplanes; and Model A340-311, -312, and -313 |
| 2010-04-12 | | Bombardier, Inc. | DHC-8-101, DHC-8-102, DHC-8-103, DHC-8-106, DHC-8-201, DHC-8-202, DHC-8-301, DHC-8-311, and DHC-8-315 |
| 2010-05-03 | | Boeing | 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-200F, 747-300, 747-400, 747-400D, 747-400F, 747SR, and 747SP |
| 2010-05-09 | | Dowty Propellers | Propeller: R354/4-123-F/13, R354/4-123-F/20, R375/4-123-F/21, R389/4-123-F/25, R389/4-123-F/26, and R390/4-123-F/27 |
| 2010-05-11 | | Boeing | 747-100, 747-200B, 747-300, and 747SR |
| 2010-05-12 | | Bombardier, Inc | DHC-8-102, DHC-8-103, DHC-8-106, DHC-8-201, and DHC-8-202 |
| 2010-05-13 | S 2006-07-12 | Boeing | 737-100, -200, -200C, -300, -400, and -500 |
| 2010-05-14 | | Bombardier, Inc | CL-600-2B19 (Regional Jet Series 100 & 440) |
| 2010-06-01 | | Airbus | A319-111, -112, -113, -114, -115, -131, -132, and -133 airplanes; Model A320-111, -211, -212, -214, -231, -232, and -233 airplanes; and Model A321-111, -112, -131, -211, -212, -213, -231, and -232 |
| 2010-06-04 | | Airbus | See AD |
| 2010-06-05 | | Airbus | See AD |
| 2010-06-51 | E | Boeing | 737-600, -700, -700C, -800, -900, and -900ER |
| Biweekly 2010-07 | | | |
| 97-17-04 R1 | R | Pratt & Whitney | Engine: JT8D-209, -217, -217C, and -219 |
| 2010-05-13 | COR, S 2006-07-12 | Boeing | 737-100, -200, -200C, -300, -400, and -500 |
| 2010-06-09 | | Boeing | 777-200, -200LR, -300, -300ER, and 777F |
| 2010-06-13 | | Learjet | 45 |
| 2010-06-15 | | General Electric Company | Engine: CF6-45A, CF6-45A2, CF6-50A, CF6-50C, CF6-50CA, CF6-50C1, CF6-50C2, CF6-50C2B, CF6-50C2D, CF6-50C2F, CF6-50C2R, CF6-50E, CF6-50E1, and CF6-50E2, 767-200, -300, -300F, and -400ER |
| 2010-06-16 | | Boeing | 767-200, -300, -300F, and -400ER |
| 2010-06-18 | | International Aero Engines | Engine: V2500-A1, V2522-A5, V2524-A5, V2525-D5, V2527-A5, V2527E-A5, V2527M-A5, V2528-D5, V2530-A5, and V2533-A5 |
| 2010-07-04 | | Embraer | ERJ 170-100 LR, -100 STD, -100 SE, and -100 SU airplanes; Model ERJ 170-200 LR, -200 SU, and -200 STD airplanes; Model ERJ 190-100 STD, -100 LR, -100 ECJ, and -100 IGW |
| Biweekly 2010-08 | | | |
| 2010-06-10 | | Boeing | 767-200, -300, and -300F |
| 2010-06-14 | | Rolls-Royce plc | Engine: RB211-Trent 875-17, Trent 877-17, Trent 884-17, Trent 884B-17, Trent 892-17, Trent 892B-17, and Trent 895-17 |
| 2010-06-17 | | Boeing | 757-200, -200CB, -200PF, and -300 |
| 2010-06-51 | | Boeing | 737-600, -700, -700C, -800, -900, and -900ER |
| 2010-07-01 | S 2009-24-05 | Rolls-Royce plc | See AD |
| 2010-07-02 | S 2006-22-05 | Honeywell, Inc. | Appliance: Honeywell Primus II RNZ-850()/-851() |
| 2010-07-03 | S 2006-08-02 | Boeing | 747-200C and -200F |
| 2010-07-06 | | Bombardier, Inc. | BD-100-1A10 (Challenger 300) |
| 2010-07-08 | | Kelly Aerospace Energy Systems, LLC | Appliance: Kelly Aerospace Energy Systems |
| 2010-07-09 | S 2007-02-05 | Rolls-Royce plc | Engine: RB211-Trent 768-60, RB211-Trent 772-60, and RB211-Trent 772B-60 |
| 2010-07-10 | | Airbus | A300 B2-1C, B2K-3C, B2-203, B4-2C, B4-103, and B4-20 |

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| Biweekly 2010-09 | | | |
| 2010-08-02 | | Embraer | ERJ 170-100 LR, -100 STD, -100 SE, -100 SU, -200 LR, -200 STD, -200 SU, ERJ 190-100 STD, -100 LR, -100 IGW, -100 ECI, -200 STD, -200 LR, and -200 IGW |
| 2010-08-03 2010-08-05 | S 2009-04-11 | Bombardier, Inc. Airbus | CL-600-2B19 (Regional Jet Series 100 & 440) A330-201, -202, -203, -223, -243, -301, -302, -303, -321, -322, -323, -341, -342, and -343, A340-311, -312, and -313 |
| 2010-08-06 | | Embraer | ERJ 170-100 LR, -100 STD, -100 SE, -100 SU, -200 LR, -200 STD, and -200 SU, ERJ 190-100 STD, -100 LR, -100 IGW, -200 STD, -200 LR, and -200 IGW |
| 2010-08-07 | | Airbus | A340-541 and -642 |
| 2010-08-08 | | Airbus | A330-243, -341, -342, and -343 |
| 2010-09-08 | | General Electric Company | Engine: CJ610 series turbojet and CF700 |
| Biweekly 2010-10 | | | |
| 2002-23-20 | COR | Dassault Aviation | 900EX, Mystere Falcon 900 |
| 2010-01-04 | COR, S 2009-24-11 | General Electric Company | Engine: CF34-1A, CF34-3A, CF34-3A1, CF34-3A2, CF34-3B, and CF34-3B1 |
| 2010-06-04 | COR | Airbus | A300 B2-1C, A300 B2-203, A300 B2K-3C, A300 B4-103, A300 B4-203, and A300 B4-2C, A310-203, A310-204, A310-221, A310-222, A310-304, A310-322, A310-324, and A310-325, A300 B4-601, A300 B4-603, A300 B4-605R, A300 B4-620, A300 B4-622, and A300 B4-622R |
| 2010-09-02 | | British Aerospace Regional Aircraft | Jetstream Series 3101 and Jetstream Model 3201 |
| 2010-09-03 | | Boeing | 747-200B |
| 2010-09-04 | | Honeywell International Inc. | Appliance: Primus EPIC and Primus APEX flight management systems (FMS) |
| 2010-09-05 | S 2010-06-51 | Boeing | 737-600, -700, -700C, -800, -900, and -900ER |
| 2010-09-06 | | Bombardier, Inc. | CL-600-2C10 (Regional Jet Series 700, 701 & 702), CL-600-2D15 (Regional Jet Series 705) and Model CL-600-2D24 (Regional Jet Series 900) |
| 2010-09-07 | | Bombardier, Inc. | DHC-8-400, -401, and -402 |
| 2010-09-10 | S 2003-04-21 R! | Bombardier, Inc. | CL-600-2B19 (Regional Jet Series 100 & 440) |
| 2010-09-11 | S 93-01-11 | BAE Systems (Operations) Limited | BAe 146-100A, -200A, and -300A series airplanes, and Model Avro 146-RJ70A, 146-RJ85A, and 146-RJ100A |
| 2010-09-12 | | McDonnell Douglas Corporation | 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, MD-10-30F, MD-11, and MD-11F |
| 2010-09-14 | S 2009-01-01 | CFM International, S.A. | Engine: CFM56-5B1/P, -5B2/P, -5B3/P, -5B3/P1, -5B4/P, -5B5/P, -5B6/P, -5B7/P, -5B8/P, -5B9/P, -5B1/2P, -5B2/2P, -5B3/2P, -5B3/2P1, -5B4/2P, -5B4/P1, -5B6/2P, -5B4/2P1, and -5B9/2P |
| 2010-10-04 | | Bombardier, Inc. | DHC-8-400, -401, and -402 |

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| Biweekly 2010-11 | | | |
| 2009-26-09 | COR | General Electric Company | Engine: CF34-1A, -3A, -3A1, -3A2, -3B, and -3B1 |
| 2010-10-05 | S 94-12-04 | Boeing | 747-100, 747-100B, 747-100B SUD, 747-200B, 747-300, 747SR, and 747SP |
| 2010-10-07 | | Empresa Brasileira de Aeronautica S.A. | ERJ 170-100 LR, -100 STD, -100 SE, -100 SU, -200 LR, -200 STD, and -200 SU, ERJ 190-100 ECJ, -100 LR, -100 IGW, -100 STD, -200 STD, -200 LR, and -200 IGW |
| 2010-10-08 | | Airbus | A318-111, -112, -121, and -122 airplanes; Model A319-111, -112, -113, -114, -115, -131, -132, and -133 airplanes; Model A320-111, -211, -212, -214, -231, -232, and -233 airplanes; and Model A321-111, -112, -131, -211, -212, -213, -231, and -232 |
| 2010-10-11 | | Empresa Brasileira de Aeronautica S.A. | EMB-135BJ, -135ER, -135KE, -135KL, -135LR, -145, -145ER, -145MR, -145LR, -145XR, -145MP, and -145EP |
| 2010-10-13 | | BAE Systems | BAe 146-100A, -200A, and -300A series airplanes; and Model Avro 146-RJ70A, 146-RJ85A, and 146-RJ100A |
| 2010-10-18 | | Bombardier, Inc. | BD-100-1A10 (Challenger 300) |
| 2010-10-19 | S 2010-02-03 | Airbus | A340-211, -212, -213, -311, -312, and -313 |
| 2010-10-20 | | McDonnell Douglas | DC-9-31, DC-9-32, DC-9-32 (VC-9C), DC-9-32F, DC-9-33F, DC-9-34, DC-9-34F, and DC-9-32F (C-9A, C-9B), DC-9-41, and DC-9-51 |
| 2010-10-21 | | Bombardier, Inc. | CL-600-2C10 (Regional Jet Series 700, 701, & 702), CL-600-2D15 (Regional Jet Series 705) and CL-600-2D24 (Regional Jet Series 900) |
| 2010-10-22 | S 2005-23-12 | BAE Systems | BAe 146-100A, -200A, and -300A series airplanes; and Model Avro 146-RJ70A, 146-RJ85A, and 146-RJ100A |
| 2010-10-23 | S 70-16-02 | Dowty Propellers | R175/4-30-4/13; R175/4-30-4/13e; R184/4-30-4/50; R193/4-30-4/50; R193/4-30-4/61; R193/4-30-4/64; R193/4-30-4/65; R193/4-30-4/66; R.209/4-40-4.5/2; R212/4-30-4/22; R.245/4-40-4.5/13; R257/4-30-4/60; and R.259/4-40-4.5/17 |
| 2010-10-24 | | Dassault Aviation | FALCON 2000 and FALCON 2000EX |
| 2010-10-25 | | Airbus | A330-201, -202, -203, -223, -243, -301, -302, -303, -321, -322, -323, -341, -342, and -343 airplanes; and Airbus Model A340-311, -312, and -313 |
| 2010-10-26 | S 2007-14-02 | Bombardier, Inc. | CL-600-1A11 (CL-600), CL-600-2A12 (CL-601), CL-600-2B16 (CL-601-3A, CL-601-3R, and CL-604) |
| 2010-11-02 | S 2007-03-05 | Gulfstream Aerospace LP | 100 airplanes; and Model Astra SPX and 1125 Westwind |
| 2010-11-03 | | Airbus | A300 B2-1A, B2-1C, B2K-3C, B2-203, B4-2C, B4-103, B4-203, B4-601, B4-603, B4-620, B4-622, B4-605R, B4-622R, F4-605R, F4-622R, and C4-605R Variant F airplanes; and Model A310-203, -204, -221, -222, -304, -322, -324, and -325 |

Biweekly 2010-12

| | | | |
|------------|------------|-------------------|---|
| 2006-09-11 | COR | Airbus | A319-111, -112, -113, -114, -115, -131, -132, and -133 airplanes; Model A320-211, -212, -214, -231, -232, and -233 airplanes; Model A321-111, -112, and -131 airplanes; and Model A321-211 and -231 |
| 2010-11-01 | | Embraer | EMB-135BJ, -135ER, -135KE, -135KL, -135LR, -145, -145ER, -145MR, -145LR, -145XR, -145MP, and -145EP airplanes, certificated in any category, all serial numbers, except Model EMB-145LR |
| 2010-11-12 | S 99-25-14 | McDonnell Douglas | MD-11 and MD-11F |
| 2010-11-13 | | Embraer | ERJ 170-100 LR, -100 STD, -100 SE, -100 SU, -200 LR, -200 STD, and -200 SU |
| 2010-11-14 | | Embraer | ERJ 190-100 STD, -100 LR, -100 IGW, -200 STD, -200 LR, and -200 IGW |

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| Biweekly 2010-13 | | | |
| 2010-10-17 | S 97-25-02, 2000-02-05, 2006-15-07, 2006-17-01 | Mitsubishi Heavy Industries, Ltd. | See AD |
| 2010-11-11 | | Learjet Inc | 60 |
| 2010-12-03 | | CFM International | Engine: CFM56-3 and -3B |
| 2010-12-05 | S 2009-06-18 | Bombardier | CL-600-2C10 (Regional Jet Series 700, 701, & 702) |
| 2010-12-06 | | Bombardier, Inc | DHC-8-400, DHC-8-401, and DHC-8-402 |
| 2010-12-07 | | Embraer | EMB-135ER, -135KE, -135KL, and -135LR airplanes; and EMBRAER Model EMB-145, -145ER, -145MR, -145LR, - 145XR, -145MP, and -145EP |
| 2010-12-08 | | Airbus | A300 B2-1A, B2-1C, B2K-3C, B2-203, B4-2C, B4-103, B4-203, B4-601, B4-603, B4-620, B4-622, B4-605R, B4-622R, F4-605R, and F4-622R airplanes; Model C4-605R Variant F airplanes; and Model A310-203, -204, -221, -222, -304, -322, -324, and -325 |
| 2010-12-09 | | Honeywell International | Appliance: APU |
| 2010-12-10 | S 2010-06-15 | General Electric | Engine: CF6-45A, CF6-45A2, CF6-50A, CF6-50C, CF6-50CA, CF6-50C1, CF6-50C2, CF6-50C2B, CF6-50C2D, CF6-50C2-F, CF6-50C2-R, CF6-50E, CF6-50E1, and CF6-50E2 |
| Biweekly 2010-14 | | | |
| 2008-01-01 | | The Boeing Company | 737-200, -300, -400, -500, -600, -700, -800, and -900 series airplanes; 747-400 series airplanes; 757-200 and -300 series airplanes; 767-200, -300, and -400ER series airplanes; 777-200 series airplanes |
| 2009-15-16 | | McDonnell Douglas Corporation | DC-9-11, DC-9-12, DC-9-13, DC-9-14, DC-9-15, and DC-9-15F, DC-9-31, DC-9-32, DC-9-32 (VC-9C), DC-9-32F, DC-9-33F, DC- 9-34, DC-9-34F, and DC-9-32F (C-9A, C-9B), 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 |
| 2010-13-02 | | Fokker Services B.V. | F.27 Mark 500 and 600 airplanes |
| 2010-13-03 | | The Boeing Company | 777-200LR and -300ER series airplanes |
| 2010-13-04 | | Bombardier, Inc. | DHC-8-400, DHC-8-401, and DHC-8-402 series airplanes |
| 2010-13-05 | COR | Bombardier, Inc. | CL-600-2C10 (Regional Jet Series 700 & 701); CL-600-2D15 (Regional Jet Series 705) and Model CL-600-2D24 (Regional Jet Series 900) airplanes |
| 2010-13-06 | | McDonnell Douglas Corporation | DC-10-10, DC-10-10F, and MD-10-10F airplanes |
| 2010-13-09 | | CFM International, S.A | CFM56-5, -5B, and -7B series turbofan engines |
| 2010-13-11 | | Fokker Services B.V. | F.28 Mark 0070 and Mark 0100 airplanes |
| 2010-13-12 | | 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 |
| 2010-14-01 | | The Boeing Company | 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747- 200F, 747-300, 747-400, 747-400F, 747SR, and 747SP series airplanes |
| 2010-14-02 | | Bombardier, Inc. | CL-600-2B16 (CL-604 Variant) airplanes |
| 2010-14-03 | S 2009-06-17 | Bombardier, Inc. | CL-600-2B19 (Regional Jet Series 100 & 440) airplanes |
| 2010-14-04 | | Airbus | A330-243, -341, -342, and -343 airplanes; and A340-541 and -642 airplanes |
| 2010-14-05 | | Bombardier, Inc. | CL-600-1A11 (CL-600), CL-600-2A12 (CL-601), CL-600-2B16 (CL-601-3A, CL-601-3R, and CL-604) airplanes |
| 2010-14-06 | S 2008-06-24 | The Boeing Company | 737-200, -300, -400, and -500 series airplanes |
| 2010-14-07 | S 2006-05-06 | 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 |
| 2010-14-08 | | The Boeing Company | 747-400, 747-400D, and 747-400F series airplanes |
| 2010-14-09 | | The Boeing Company | 747-100B, 747-200B, 747-200F, 747-300, 747-400, 747-400F, and 747SP series airplanes |
| 2010-14-10 | S 94-17-01 | The Boeing Company | 747-100, 747-200B, and 747-200F series airplanes |

LARGE AIRCRAFT

| AD No. | Information | Manufacturer | Applicability |
|--------|-------------|--------------|---------------|
|--------|-------------|--------------|---------------|

Info: E - Emergency; COR - Correction; S - Supersedes; R - Revision; FR - Final Rule of Emergency

Biweekly 2010-15

| | | | |
|------------|--------------|----------------------------|---|
| 2010-10-06 | S 2007-18-04 | Airbus | A330-201, -202, -203, -223, -243, -301, -302, -303, -321, -322, -323, -341, -342, and -343 |
| 2010-14-11 | | Bombardier, Inc | DHC-8-400, -401, and -402 |
| 2010-14-13 | | Boeing | 777-200, -200LR, -300, and -300ER |
| 2010-14-16 | S 2008-17-06 | Bombardier, Inc | DHC-8-400, -401, and -402 |
| 2010-14-17 | | Boeing | 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-200F, 747-300, 747-400, 747SR, and 747SP |
| 2010-14-19 | | Airbus | A330-201, -202, -203, -223, -243, -301, -302, -303, -321, -322, -323, -341, -342 and -343, A340-211, -212, -213, -311, -312, -313, -541, and -642 |
| 2010-14-20 | | McCauley Propeller Systems | Propeller: 4HFR34C653/L106FA |
| 2010-15-01 | | Boeing | 757-200, -200CB, -200PF, 757-300, 767-200, -300, -300F, 767-400ER, 777-200 and -300 |

Biweekly 2010-16

| | | | |
|------------|--------------|---------|---|
| 2010-14-14 | S 2007-16-09 | Embraer | Model ERJ 170-100 LR, -100 STD, -100 SE, and -100 SU airplanes; and Model ERJ 170-200 LR, -200 STD, and -200 SU, ERJ 190-100 ECJ, -100 LR, -100 IGW, -100 STD airplanes; and Model ERJ 190-200 STD, -200 LR, and -200 IGW |
| 2010-14-18 | S 2005-19-23 | Boeing | 767-200, -300, and -300F |
| 2010-15-02 | | Airbus | A330-201, -202, -203, -223, -243, -301, -302, -303, -321, -322, -323, -341, -342, and -343 series airplanes, A340-211, -212, -213, -311, -312, and -313 series airplanes, and A340-541 and -642 |
| 2010-15-08 | S 2003-24-08 | Boeing | 737-100, -200, -200C, -300, -400, and -500 |



2010-14-14 Empresa Brasileira de Aeronautica S.A. (EMBRAER): Amendment 39-16359.
Docket No. FAA-2010-0174; Directorate Identifier 2009-NM-186-AD.

Effective Date

(a) This airworthiness directive (AD) becomes effective August 26, 2010.

Affected ADs

(b) This AD supersedes AD 2007-16-09, Amendment 39-15148.

Applicability

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

(1) Empresa Brasileira de Aeronautica S.A. (EMBRAER) Model ERJ 170-100 LR, -100 STD, -100 SE, and -100 SU airplanes; and Model ERJ 170-200 LR, -200 STD, and -200 SU airplanes; equipped with Hamilton Sundstrand low pressure check valve (LPCV) having part number (P/N) 1001447-3.

(2) Empresa Brasileira de Aeronautica S.A. (EMBRAER) Model ERJ 190-100 ECJ, -100 LR, -100 IGW, -100 STD airplanes; and Model ERJ 190-200 STD, -200 LR, and -200 IGW airplanes; equipped with Hamilton Sundstrand LPCV having P/N 1001447-3 or 1001447-4.

Subject

(d) Air Transport Association (ATA) of America Code 36: Pneumatic.

Reason

(e) The mandatory continuing airworthiness information (MCAI) for EMBRAER Model ERJ 170 airplanes states:

It has been found the occurrence of an engine in-flight shutdown caused by the LPCV [low pressure check valves] failing to close due to excessive wear, which leads to the concern that such fault may be present in both engines of a given aircraft.

* * * * *

The MCAI for EMBRAER Model ERJ 190 airplanes states:

An occurrence of an uncommanded engine in-flight shutdown (IFSD) was reported on 20 Sep. 2005, which was caused by an ERJ 170 defective LPCV P/N 1001447-3 logging 3,900 Flight Hours (FH). The valve failed to close due to excessive wear. Despite there were no IFSD related to LPCV P/N 1001447-4 failure, some ERJ 190 valves P/N 1001447-4 logging around 2472 FH were inspected and presented cracks due to low cycle fatigue. Since this failure mode also might lead to an engine in-flight shutdown and since both engines of the airplane have the same valves, there is a possibility of an occurrence of a dual engine IFSD due to LPCV failure.

* * * * *

The required actions include repetitive replacements of the low-stage check valves and associated seals of the left-hand and right-hand engine bleed system with new or serviceable valves, depending on the model. For certain airplanes, this AD also includes an optional terminating action for the repetitive replacements. This AD also requires, if the terminating action is done, revising the approved maintenance plan to include repetitive functional tests of the low-stage check valve. For certain other airplanes, this AD requires replacing a certain low-stage check valve with an improved low-stage check valve.

Restatement of Requirements of AD 2005-23-14, With Revised Service Information:

Replacement for Right-Hand (RH) Engine on Model ERJ 170-100 LR, -100 STD, -100 SE, and -100 SU Airplanes

(f) For Model ERJ 170-100 LR, -100 STD, -100 SE, and -100 SU airplanes: Within 100 flight hours after November 29, 2005 (the effective date of AD 2005-23-14, which was superseded by AD 2007-16-09), or prior to the accumulation of 3,000 total flight hours, whichever occurs later, replace the low-stage check valve and associated seals of the RH engine's engine bleed system with a new check valve and new seals, in accordance with the Accomplishment Instructions of EMBRAER Alert Service Bulletin 170-36-A004, dated September 28, 2005; or paragraph 3.C. of the Accomplishment Instructions of EMBRAER Service Bulletin 170-36-0004, dated November 18, 2005, or Revision 01, dated March 10, 2008. As of the effective date of this AD, only use EMBRAER Service Bulletin 170-36-0004, Revision 01, dated March 10, 2008. Repeat the replacement thereafter at intervals not to exceed 3,000 flight hours.

Removed Check Valves

(g) Although EMBRAER Alert Service Bulletin 170-36-A004, dated September 28, 2005, specifies to send removed check valves to the manufacturer, this AD does not include that requirement.

Restatement of Certain Requirements of AD 2007-16-09, With Revised Service Information:

Replacement for Left-Hand (LH) Engine on All Model ERJ 170 Airplanes

(h) For Model ERJ 170-100 LR, -100 STD, -100 SE, -100 SU, -200 LR, -200 STD, and -200 SU airplanes: Within 300 flight hours after September 13, 2007 (the effective date of AD 2007-16-09) or prior to the accumulation of 3,000 total flight hours, whichever occurs later, replace the low-stage check valve and associated seals of the LH engine's engine bleed system with a new check valve and new seals, in accordance with paragraph 3.B. of the Accomplishment Instructions of EMBRAER

Service Bulletin 170-36-0004, dated November 18, 2005; or Revision 01, dated March 10, 2008. As of the effective date of this AD, only use EMBRAER Service Bulletin 170-36-0004, Revision 01, dated March 10, 2008. Repeat the replacement thereafter at intervals not to exceed 3,000 flight hours.

Removed Check Valves in Accordance With New Service Bulletin

(i) Although EMBRAER Service Bulletin 170-36-0004, dated November 18, 2005, specifies to send removed check valves to the manufacturer, this AD does not include that requirement.

New Requirements of This AD:

Actions and Compliance

(j) Unless already done, do the following actions.

(1) For Model ERJ 170-200 LR, -200 STD, and -200 SU airplanes: Within 100 flight hours after the effective date of this AD, or prior to the accumulation of 3,000 total flight hours, whichever occurs later, replace the low-stage check valve and associated seals of the RH engine's engine bleed system with a new check valve and new seals, in accordance with the Accomplishment Instructions of EMBRAER Service Bulletin 170-36-0004, Revision 01, dated March 10, 2008. Repeat the replacement thereafter at intervals not to exceed 3,000 flight hours.

(2) For Model ERJ 170-100 LR, -100 STD, -100 SE, -100 SU, -200 LR, -200 STD, and -200 SU airplanes: Replacing the LPCV having P/N 1001447-3 with a new one having P/N 1001447-4 in accordance with the Accomplishment Instructions of EMBRAER Service Bulletin 170-36-0011, Revision 02, dated July 19, 2007, terminates the repetitive replacements required by paragraphs (f), (h), and (j)(1) of this AD.

(3) For Model ERJ 170-100 LR, -100 STD, -100 SE, -100 SU, -200 LR, -200 STD, and -200 SU airplanes, at the earlier of the times specified in paragraphs (j)(3)(i) and (j)(3)(ii) of this AD, revise the maintenance program to include maintenance Task 36-11-02-002 (Low Stage Bleed Check Valve), specified in Section 1 of the EMBRAER 170 Maintenance Review Board Report (MRBR), MRB-1621, Revision 6, dated January 14, 2010. Thereafter, except as provided by paragraph (k) of this AD, no alternative inspection intervals may be approved for the task.

(i) Within 180 days after accomplishing paragraph (j)(2) of this AD.

(ii) Before any LPCV having P/N 1001447-4 accumulates 3,000 total flight hours, or within 300 flight hours after the effective date of this AD, whichever occurs later.

(4) For Model ERJ 170-100 LR, -100 STD, -100 SE, -100 SU, -200 LR, -200 STD, and -200 SU airplanes: As of the effective date of this AD, no person may install any LPCV identified in paragraph (j)(4)(i) or (j)(4)(ii) of this AD on any airplane.

(i) Any LPCV having P/N 1001447-3, installed on Model ERJ-170 airplanes, that has accumulated more than 3,000 total flight hours.

(ii) Any LPCV having P/N 1001447-3, installed on Model ERJ-170 and ERJ-190 airplanes, that has accumulated 3,000 or more total flight hours. To calculate the equivalent number of flight hours for a LPCV having P/N 1001447-3 that was installed on Model ERJ-190 airplane to be installed on a Model ERJ-170 airplane, the flight hours accumulated in operation on ERJ-190 models must be multiplied by a factor of 2 (100 percent).

(5) For Model ERJ 190-100 ECJ, -100 LR, -100 IGW, -100 STD, -200 STD, -200 LR, and -200 IGW airplanes: Within 100 flight hours after the effective date of this AD, replace all LPCVs having P/N 1001447-3 that have accumulated 1,500 total flight hours or more as of the effective date of this

AD, with a new or serviceable LPCV having P/N 1001447-4 that has accumulated less than 2,000 total flight hours since new or since overhaul, in accordance with the Accomplishment Instructions of EMBRAER Service Bulletin 190-36-0006, Revision 01, dated July 19, 2007.

(6) For Model ERJ 190-100 ECJ, -100 LR, -100 IGW, -100 STD, -200 STD, -200 LR, and -200 IGW airplanes: Replace all LPCVs having P/N 1001447-3 that have accumulated less than 1,500 total flight hours as of the effective date of this AD, before the LPCV accumulates 1,500 total flight hours or within 100 flight hours after the effective date of this AD, whichever occurs later. Replace that LPCV with a new or serviceable LPCV having P/N 1001447-4 that has accumulated less than 2,000 total flight hours since new or since overhaul, in accordance with the Accomplishment Instructions of EMBRAER Service Bulletin 190-36-0006, Revision 01, dated July 19, 2007.

(7) For Model ERJ 190-100 ECJ, -100 LR, -100 IGW, -100 STD, -200 STD, -200 LR, and -200 IGW airplanes: Within 200 flight hours after the effective date of this AD, or before any LPCV having P/N 1001447-4 installed on the right engine accumulates 2,000 total flight hours since new or since overhaul, whichever occurs later, replace the valve with a new or serviceable LPCV having P/N 1001447-4 that has accumulated less than 2,000 total flight hours since new or since overhaul, in accordance with the Accomplishment Instructions of EMBRAER Service Bulletin 190-36-0014, Revision 01, dated January 14, 2009. Repeat the replacement on the right engine at intervals not to exceed 2,000 total flight hours on the LPCV since new or last overhaul.

(8) For Model ERJ 190-100 ECJ, -100 LR, -100 IGW, -100 STD, -200 STD, -200 LR, and -200 IGW airplanes: Within 200 flight hours after the effective date of this AD, or before any LPCV having P/N 1001447-4 installed on the left engine accumulates 2,000 total flight hours since new or last overhaul, whichever occurs later, replace the valve with a new or serviceable LPCV having P/N 1001447-4 that has accumulated less than 2,000 total flight hours since new or since overhaul, in accordance with the Accomplishment Instructions of EMBRAER Service Bulletin 190-36-0014, Revision 01, dated January 14, 2009. Repeat the replacement on the left engine at intervals not to exceed 2,000 total flight hours on the LPCV since new or last overhaul.

(9) For Model ERJ 190-100 ECJ, -100 LR, -100 IGW, -100 STD, -200 STD, -200 LR, and -200 IGW airplanes: As of the effective date of this AD, installation on the left and right engines with a LPCV having P/N 1001447-4 is allowed only if the valve has accumulated less than 2,000 total flight hours since new or last overhaul prior to installation.

(10) For Model ERJ 190-100 ECJ, -100 LR, -100 IGW, -100 STD, -200 STD, -200 LR, and -200 IGW airplanes: As of the effective date of this AD, no LPCV having P/N 1001447-3 may be installed on any airplane. Any LPCV having P/N 1001447-3 already installed on an airplane may remain in service until reaching the flight-hour limit defined in paragraphs (j)(5) and (j)(6) of this AD.

(11) Replacing the LPCV is also acceptable for compliance with the requirements of paragraph (j)(2) of this AD if done before the effective date of this AD in accordance with EMBRAER Service Bulletin 170-36-0011, dated January 9, 2007; or EMBRAER Service Bulletin 170-36-0011, Revision 01, dated May 28, 2007.

(12) Replacing the LPCV is also acceptable for compliance with the requirements of paragraphs (j)(5) and (j)(6) of this AD if done before the effective date of this AD in accordance with EMBRAER Service Bulletin 190-36-0006, dated April 9, 2007.

(13) Replacing the LPCV is also acceptable for compliance with the corresponding replacement in paragraph (j)(1) of this AD if done before the effective date of this AD in accordance with EMBRAER Service Bulletin 170-36-0004, dated November 18, 2005.

(14) Revising the maintenance program to include maintenance Task 36-11-02-002 (Low Stage Bleed Check Valve) specified in Section 1 of the EMBRAER 170 Maintenance Review Board Report (MRBR), MRB-1621, Revision 5, dated November 5, 2008, is acceptable for compliance with the requirements of paragraph (j)(3) of this AD if done before the effective date of this AD.

Note 1: The actions in paragraphs (j)(5), (j)(6), (j)(7), (j)(8), (j)(9), and (j)(10) of this AD are considered interim action until a final action is identified, at which time we might consider issuing further rulemaking.

FAA AD Differences

Note 2: This AD differs from the MCAI and/or service information as follows: No differences.

Other FAA AD Provisions

(k) The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA, has the authority to approve AMOCs for paragraph (j) of this AD, if requested using the procedures found in 14 CFR 39.19. Send information to ATTN: Kenny Kaulia, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 227-2848; fax (425) 227-1149. Before using any approved AMOC on any airplane to which the AMOC applies, notify your principal maintenance inspector (PMI) or principal avionics inspector (PAI), as appropriate, or lacking a principal inspector, your local Flight Standards District Office. The AMOC approval letter must specifically reference this AD.

AMOCs approved previously in accordance with AD 2007-16-09, Amendment 39-15148, are approved as AMOCs for the corresponding provisions of paragraph (j) of this AD.

(2) Airworthy Product: For any requirement in this AD to obtain corrective actions from a manufacturer or other source, use these actions if they are FAA-approved. Corrective actions are considered FAA-approved if they are approved by the State of Design Authority (or their delegated agent). You are required to assure the product is airworthy before it is returned to service.

(3) Reporting Requirements: For any reporting requirement in this AD, under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 et seq.), the Office of Management and Budget (OMB) has approved the information collection requirements and has assigned OMB Control Number 2120-0056.

Related Information

(1) Refer to MCAI Brazilian Airworthiness Directives 2005-09-03R2, effective February 25, 2008, and 2006-11-01R4, effective April 9, 2009; and the service information listed in Table 1 of this AD; for related information.

Table 1 – Related Service Information

| Document | Revision | Date |
|---|-----------------|------------------|
| EMBRAER Service Bulletin 170-36-0004 | 01 | March 10, 2008 |
| EMBRAER Service Bulletin 170-36-0011 | 02 | July 19, 2007 |
| EMBRAER Service Bulletin 190-36-0006 | 01 | July 19, 2007 |
| EMBRAER Service Bulletin 190-36-0014 | 01 | January 14, 2009 |
| Task 36-11-02-002 (Low Stage Bleed Check Valve) specified in Section 1 of the EMBRAER 170 Maintenance Review Board Report (MRBR) MRB-1621 | 6 | January 14, 2010 |

Material Incorporated by Reference

(m) You must use the service information contained in Table 2 of this AD, and the specified task in Section 1 of the EMBRAER 170 Maintenance Review Board Report (MRBR) MRB-1621, Revision 6, dated January 14, 2010, as applicable, to do the actions required by this AD, unless the AD specifies otherwise.

Table 2 – All Material Incorporated by Reference

| Document | Revision | Date |
|--------------------------------------|-----------------|------------------|
| EMBRAER Service Bulletin 170-36-0004 | 01 | March 10, 2008 |
| EMBRAER Service Bulletin 170-36-0011 | 02 | July 19, 2007 |
| EMBRAER Service Bulletin 190-36-0006 | 01 | July 19, 2007 |
| EMBRAER Service Bulletin 190-36-0014 | 01 | January 14, 2009 |

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

EMBRAER 170 MRBR MRB-1621, Revision 6, dated January 14, 2010, contains the following effective pages:

List of Effective Pages

| Page title/ description | Page Nos. | Revision No. | Date shown on page(s) |
|------------------------------------|--|---------------------|----------------------------------|
| MRBR Title Page | None shown | 6 | January 14, 2010. |
| MRBR List of Effective Pages | A–P | None shown* | January 14, 2010. |
| MRBR Table of Contents | 1 | None shown* | November 5, 2008. |
| | 2–3 | None shown* | January 14, 2010. |
| | 4 | None shown* | May 31, 2007. |
| Section 1 | 1–1, 1–2, 1–8 | None shown* | May 31, 2007. |
| | 1–3 through 1–7, 1–9, 1–13 through 1–86. | None shown* | January 14, 2010. |
| | 1–10 | None shown* | November 5, 2008. |
| | 1–11, 1–12 | None shown* | June 29, 2006. |

* Only the title page of EMBRAER 170 MRBR MRB-1621, Revision 6, contains the revision level of this document.

(2) For service information identified in this AD, contact Empresa Brasileira de Aeronautica S.A. (EMBRAER), Technical Publications Section (PC 060), Av. Brigadeiro Faria Lima, 2170–Putim–12227-901 São Jose dos Campos–SP–BRASIL; telephone +55 12 3927-5852 or +55 12 3309-0732; fax +55 12 3927-7546; e-mail distrib@embraer.com.br; Internet <http://www.flyembraer.com>.

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

(4) You may also review copies of the 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/code_of_federal_regulations/ibr_locations.html.

Issued in Renton, Washington, on June 23, 2010.

Ali Bahrami,
 Manager, Transport Airplane Directorate,
 Aircraft Certification Service.



2010-14-18 The Boeing Company: Amendment 39-16363. Docket No. FAA-2010-0671; Directorate Identifier 2010-NM-142-AD.

Effective Date

(a) This AD becomes effective August 6, 2010.

Affected ADs

(b) This AD supersedes AD 2005-19-23, Amendment 39-14288.

Applicability

(c) This AD applies to The Boeing Company Model 767-200, -300, and -300F series airplanes, certificated in any category; as identified in Boeing Alert Service Bulletin 767-54A0101, Revision 5, dated June 29, 2010.

Subject

(d) Air Transport Association (ATA) of America Code 54: Nacelles/Pylons.

Unsafe Condition

(e) This AD results from reports of cracks in the midspar fitting tangs. The Federal Aviation Administration is issuing this AD to detect and correct fatigue cracking in the primary strut structure and reduced structural integrity of the strut, which could result in separation of the strut and engine.

Compliance

(f) You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

Note 1: Notwithstanding any inspection done in accordance with AD 2005-19-23, inspect within the compliance times specified in this AD.

Initial Inspection

(g) At the applicable time specified in paragraph (h) of this AD: Do the actions specified in either paragraph (g)(1) or (g)(2) of this AD.

(1) Do a detailed inspection for cracking of the 8 aft-most fastener holes in the horizontal tangs of the midspar fitting of the strut, and a surface high frequency eddy current (HFEC) inspection for cracking of the closeout angle that covers the 2 aft-most fasteners in the lower tang of the midspar fitting, in accordance with Part 1, "Detailed Inspection of Midspar Fitting and Surface High

Frequency Eddy Current (HFEC) Inspection of Closeout Angle," of the Work Instructions of Boeing Alert Service Bulletin 767-54A0101, Revision 5, dated June 29, 2010.

(2) Do an open-hole HFEC inspection for cracking of each fastener hole, inspect to determine the size of each fastener hole, and do all applicable related investigative and corrective actions, in accordance with Part 2, "Open Hole HFEC Inspection," of the Work Instructions of Boeing Alert Service Bulletin 767-54A0101, Revision 5, dated June 29, 2010, except as required by paragraphs (m) and (n) of this AD, and except as provided by paragraph (p) of this AD. Do all applicable related investigative and corrective actions before further flight.

(h) At the applicable time specified in paragraph (h)(1) or (h)(2) of this AD, do the actions specified in paragraph (g) of this AD.

(1) For airplanes on which an inspection (any Part 1 or Part 2 inspection) has not been done in accordance with any service bulletin listed in Table 1 of this AD as of the effective date of this AD: Prior to the accumulation of 8,000 total flight cycles, or within 90 days after the effective date of this AD, whichever occurs later, do the actions specified in paragraph (g) of this AD.

Table 1 – Service Bulletins

| Service Bulletin | Revision | Date |
|---|-----------------|-------------------|
| Boeing Alert Service Bulletin 767-54A0101 | 4 | February 10, 2005 |
| Boeing Alert Service Bulletin 767-54A0101 | 5 | June 29, 2010 |
| Boeing Service Bulletin 767-54A0101 | 2 | January 10, 2002 |
| Boeing Service Bulletin 767-54A0101 | 3 | September 5, 2002 |

(2) For airplanes on which any inspection (any Part 1 or Part 2 inspection) has been done in accordance with any service bulletin listed in Table 1 of this AD as of the effective date of this AD: Within 400 flight cycles after doing the most recent inspection or within 90 days after the effective date of this AD, whichever occurs later, do the actions specified in paragraph (g) of this AD.

Repetitive Inspections

(i) If, during any detailed and surface HFEC inspection specified by paragraph (g)(1) of this AD, no cracking is found, do the actions specified in either paragraph (i)(1) or (i)(2) of this AD.

(1) Repeat the inspections specified in paragraph (g)(1) of this AD thereafter at intervals not to exceed 400 flight cycles.

(2) Within 400 flight cycles after doing the most recent inspections specified in paragraph (g)(1) of this AD, do the actions specified in paragraph (g)(2) of this AD and repeat thereafter at intervals not to exceed 6,000 flight cycles.

(j) If, during the actions specified by paragraph (g)(2) of this AD, the terminating action specified in Part 4 of the Work Instructions of Boeing Alert Service Bulletin 767-54A0101, Revision 5, dated June 29, 2010, is not done, do the actions specified in either paragraph (j)(1) or (j)(2) of this AD.

(1) Within 6,000 flight cycles after doing the actions specified in paragraph (g)(2) of this AD, do the inspections specified in paragraph (g)(1) of this AD and repeat the inspections thereafter at intervals not to exceed 400 flight cycles.

(2) Repeat the actions specified in paragraph (g)(2) of this AD thereafter at intervals not to exceed 6,000 flight cycles.

Corrective Actions for Inspections Done per Paragraph (g)(1) of This AD

(k) If, during any inspection specified by paragraph (g)(1) of this AD, any crack is found in the midspar fitting tangs, before further flight, do the actions specified in paragraph (k)(1) or (k)(2) of this AD.

(1) Do the terminating action specified in Part 4 of the Work Instructions of Boeing Alert Service Bulletin 767-54A0101, Revision 5, dated June 29, 2010, except as required by paragraph (m) of this AD. Accomplishment of this paragraph terminates the requirements of this AD.

(2) Replace the midspar fitting of the strut with a new part, or repair in accordance with a method approved by the Manager, Seattle Aircraft Certification Office (ACO), FAA. Within 8,000 flight cycles after doing the replacement, do the actions specified in either paragraph (k)(2)(i) or (k)(2)(ii) of this AD.

(i) Do the inspections specified in paragraph (g)(1) of this AD and repeat the inspections thereafter at intervals not to exceed 400 flight cycles.

(ii) Do the actions specified in paragraph (g)(2) of this AD and repeat the actions thereafter at intervals not to exceed 6,000 flight cycles.

(l) If, during any surface HFEC inspection specified by paragraph (g)(1) of this AD, any crack is found in the closeout angle, before further flight, do the open-hole HFEC inspection for cracking and all applicable related investigative and corrective actions, in accordance with Part 2, "Open Hole HFEC Inspection," and step 4.b.(2) of Part 1, "Detailed Inspection of Midspar Fitting and Surface High Frequency Eddy Current (HFEC) Inspection of Closeout Angle," of the Work Instructions of Boeing Alert Service Bulletin 767-54A0101, Revision 5, dated June 29, 2010, except as required by paragraphs (m) and (n) of this AD, and except as provided by paragraph (p) of this AD. If the terminating action specified in Part 4 of the Work Instructions of Boeing Alert Service Bulletin 767-54A0101, Revision 5, dated June 29, 2010, is not done, do the actions specified in either paragraph (l)(1) or (l)(2) of this AD.

(1) Within 6,000 flight cycles after doing the actions specified in paragraph (l) of this AD, do the inspections specified in paragraph (g)(1) of this AD and repeat the inspections thereafter at intervals not to exceed 400 flight cycles.

(2) Within 6,000 flight cycles after doing the actions specified in paragraph (l) of this AD, do the actions specified in paragraph (g)(2) of this AD, and repeat the actions thereafter at intervals not to exceed 6,000 flight cycles.

Service Bulletin Exceptions

(m) Where Boeing Alert Service Bulletin 767-54A0101, Revision 5, dated June 29, 2010, specifies that the manufacturer may be contacted for disposition of repair conditions: Before further flight, accomplish the repair using a method approved in accordance with the procedures specified in paragraph (r) of this AD.

(n) If, during any open-hole HFEC inspection required by paragraph (g)(2) or (l) of this AD, any crack is found in the midspar fitting and the hole size is 0.5322 inch, before further flight, do the terminating action specified in paragraph (k)(1) of this AD.

Optional Terminating Action

(o) Doing the terminating action specified in Part 4 of the Work Instructions of Boeing Alert Service Bulletin 767-54A0101, Revision 5, dated June 29, 2010, terminates the requirements of this AD.

Note 2: Boeing Alert Service Bulletin 767-54A0101, Revision 5, dated June 29, 2010, refers to the Boeing service bulletins in Table 2 of this AD as additional sources of guidance for doing the terminating action in paragraphs (k) and (o) of this AD.

Table 2 – Additional Sources of Guidance

| Boeing Service Bulletin | Revision Level | Date | Title |
|--------------------------------|-----------------------|-------------------|---|
| 767-54-0052 | Original | June 11, 1992 | Nacelles/Pylons – Strut – Aft Lower Spar – Fastener Corrosion – Inspection and Replacement |
| 767-54-0061 | 2 | November 23, 1999 | Nacelles/Pylons – Wing-to-Strut Attach Fittings – Lower Spar Bushing Inspection and Replacement |
| 767-54-0069 | 2 | August 31, 2000 | Nacelles/Pylons – Midspar Fitting – Underwing Sideload Fitting – Fuse Pin Replacement and Wing Rework |
| 767-54-0072 | Original | March 13, 1997 | Nacelles/Pylons – Strut Attach Upper Link – Upper Link Inspection, Rework or Replacement |
| 767-54-0080 | 1 | May 9, 2002 | Nacelles/Pylons – Pratt and Whitney Powered Airplanes – Nacelle Strut and Wing Structure Modification |
| 767-54-0081 | 1 | February 7, 2002 | Nacelles/Pylons – General Electric Powered Airplanes – Nacelle Strut and Wing Structure Modification |
| 767-54A0062 | 6 | November 5, 2009 | Nacelles/Pylons – Strut Attach Fuse Pins – Midspar Fuse Pin Inspection and Replacement |
| 767-54A0074 | 1 | April 24, 2008 | Nacelles/Pylons – Strut Attach Fuse Pins – Upper link Fuse Pin Inspection/Replacement. |
| 767-54A0094 | 2 | February 7, 2002 | Nacelles/Pylons – Strut-to-Wing Attachment – Diagonal Brace Inspection/Rework/Replacement |
| 767-57-0063 | 1 | November 30, 2000 | Wings – Side Load Underwing Fitting – Inspection/Rework |

Note 3: Certain service bulletins referenced in Table 2 of this AD are related to the ADs listed in Table 3 of this AD.

Table 3 – Other Relevant Rulemaking

| AD | Applicability | Related Boeing Service Bulletin | AD Requirement |
|-----------------------------------|---|--|---|
| AD 2000-07-05, amendment 39-11659 | Certain Boeing Model 767 series airplanes | 767-54A0094 | Repetitive inspections to detect cracking or damage of the forward and aft lugs of the diagonal brace of the nacelle strut; follow-on actions, if necessary; and terminating action for the repetitive inspections. |
| AD 2004-16-12, amendment 39-13768 | Certain Boeing Model 767-200, -300, and -300F series airplanes powered by Pratt & Whitney engines or General Electric engines | 767-54-0069, 767-54-0080, 767-54-0081, and 767-54A0094 | Modification of the nacelle strut and wing structure. |
| AD 2009-20-09, amendment 39-16032 | Certain Boeing Model 767-200, -300, and -300F series airplanes | 767-54A0074 | Repetitive inspections for fatigue cracking and corrosion of the upper link fuse pin of the nacelle struts, and related investigative and corrective actions if necessary. |
| AD 2010-03-08, amendment 39-16192 | Certain Boeing Model 767-200, -300, and -300F series airplanes | 767-54A0062, 767-54-0069 | Repetitive detailed and eddy current inspections to detect cracks of certain midspar fuse pins, and corrective action if necessary. |

Optional Corrective Action for Paragraph (g)(2) or (l) of This AD

(p) In lieu of doing the related investigative and corrective actions required by paragraph (g)(2) or (l) of this AD, before further flight, replace the midspar fitting of the strut with a new part, or repair in accordance with a method approved by the Manager, Seattle Aircraft Certification Office (ACO), FAA. Within 8,000 flight cycles after doing any replacement, do the actions specified in either paragraph (p)(1) or (p)(2) of this AD.

(1) Do the inspections specified in paragraph (g)(1) of this AD and repeat the inspections thereafter at intervals not to exceed 400 flight cycles.

(2) Do the actions specified in paragraph (g)(2) of this AD and repeat the actions thereafter at intervals not to exceed 6,000 flight cycles.

Terminating Action Accomplished per Previous Issues of Service Bulletin

(q) Doing the terminating action specified in Part 4 of the Work Instructions of any service bulletin listed in Table 4 of this AD before the effective date of this AD is acceptable for compliance with the requirements of this AD.

Table 4 – Credit Service Bulletins for Terminating Action

| Service Bulletin | Revision | Date |
|---|-----------------|--------------------|
| Boeing Alert Service Bulletin 767-54A0101 | Original | September 23, 1999 |
| Boeing Alert Service Bulletin 767-54A0101 | 4 | February 10, 2005 |
| Boeing Service Bulletin 767-54A0101 | 1 | February 3, 2000 |
| Boeing Service Bulletin 767-54A0101 | 2 | January 10, 2002 |
| Boeing Service Bulletin 767-54A0101 | 3 | September 5, 2002 |

Alternative Methods of Compliance (AMOCs)

(r)(1) The Manager, Seattle Aircraft Certification Office, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. Send information to Attn: Berhane Alazar, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 917-6577; fax (425) 917-6590. Information may be e-mailed to: 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(2) To request a different method of compliance or a different compliance time for this AD, follow the procedures in 14 CFR 39.19. Before using any approved AMOC on any airplane to which the AMOC applies, notify your principal maintenance inspector (PMI) or principal avionics inspector (PAI), as appropriate, or lacking a principal inspector, your local Flight Standards District Office. The AMOC approval letter must specifically reference this AD.

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

Material Incorporated by Reference

(s) You must use Boeing Alert Service Bulletin 767-54A0101, Revision 5, dated June 29, 2010, to do the actions required by this AD, unless the AD specifies otherwise.

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

(2) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P.O. Box 3707, MC 2H-65, Seattle, Washington 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; e-mail me.boecom@boeing.com; Internet <https://www.myboeingfleet.com>.

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

(4) You may also review copies of the 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/code_of_federal_regulations/ibr_locations.html.

Issued in Renton, Washington, on July 9, 2010.
Ali Bahrami,
Manager, Transport Airplane Directorate,
Aircraft Certification Service.



2010-15-02 Airbus: Amendment 39-16368. Docket No. FAA-2009-0003; Directorate Identifier 2007-NM-251-AD.

Effective Date

- (a) This airworthiness directive (AD) becomes effective August 26, 2010.

Affected ADs

- (b) None.

Applicability

(c) This AD applies to Airbus Model A330-201, -202, -203, -223, -243, -301, -302, -303, -321, -322, -323, -341, -342, and -343 series airplanes, A340-211, -212, -213, -311, -312, and -313 series airplanes, and A340-541 and -642 airplanes, certificated in any category; all certified models, all manufacturer serial numbers.

Subject

- (d) Air Transport Association (ATA) of America Code 27: Flight Controls.

Reason

- (e) The mandatory continuing airworthiness information (MCAI) states:

Several cases of corrosion and damage on the Down Drive Shafts (DDS), between the Down Drive Gear Box (DDGB) and the Input Gear Box (IPGB), on all 10 Flap Tracks (5 per wing), have been reported by AIRBUS Long Range Operators.

Investigations have revealed that corrosion and wear due to absence of grease in the spline interfaces could cause [DDS] disconnection which could result in a free movable flap surface, potentially leading to aircraft asymmetry or even flap detachment.

Emergency Airworthiness Directive (EAD) 2007-0222-E mandated on all aircraft older than 6 years since AIRBUS original delivery date of the aircraft, an initial inspection of all DDS and IPGB for corrosion and wear detection in order to replace any damaged part.

Revision 1 of EAD 2007-0222-E aimed for clarifying the compliance instructions.

[EASA AD 2008-0026] supersedes the EAD 2007-0222R1-E and mandates repetitive inspections every 6 years for all the fleet.

The unsafe condition could reduce the ability of the flightcrew to maintain the safe flight and landing of the airplane. The corrective actions include replacing damaged parts.

Compliance

(f) You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

Actions

(g) Do the applicable inspections and corrective actions specified in paragraphs (g)(1) and (g)(2) of this AD, in accordance with the instructions of the applicable service information specified in Table 1 of this AD.

Table 1 – Service Information

| For Model – | Use Airbus Mandatory Service Bulletin – | For Actions Specified in Paragraph – |
|------------------------------------|---|---|
| A330-200 and -300 series airplanes | A330-27-3151, Revision 01, dated March 19, 2008 | (g)(1)(i) and (g)(1)(ii) of this AD |
| A330-200 and -300 series airplanes | A330-27-3152, Revision 03, dated February 22, 2010 | (g)(1)(iv) and (g)(2) of this AD |
| A340-200 and -300 series airplanes | A340-27-4151, Revision 01, dated March 19, 2008 | (g)(1)(i) and (g)(1)(ii) of this AD |
| A340-200 and -300 series airplanes | A340-27-4152, Revision 02, dated September 23, 2008 | (g)(1)(iv) and (g)(2) of this AD |
| A340-541 and -642 airplanes | A340-27-5040, Revision 02, dated September 23, 2008 | (g)(2) of this AD |

(1) For Model A330-200 and -300 series airplanes, up to and including manufacturer serial number (MSN) 0420, and Model A340-200 and -300 series airplanes, up to and including MSN 0415, except MSNs 0385 and 0395: Do the applicable actions specified in paragraphs (g)(1)(i), (g)(1)(ii), (g)(1)(iii), and (g)(1)(iv) of this AD at the applicable time specified.

(i) For airplanes on which less than 10 years have accumulated since the date of issuance of the original French standard airworthiness certificate or the date of issuance of the original French or EASA export certificate of airworthiness as of the effective date of this AD: Within 24 months after the effective date of this AD, perform simultaneous detailed visual inspections of the IPGB and of the DDS on all flap tracks on both wings for corrosion and wear detection and do all applicable corrective actions. For Type 3 damaged parts, do all applicable corrective actions before further flight. For Type 2 damaged IPGB parts, do all applicable corrective actions within 18 months after doing the inspection.

(ii) For airplanes on which 10 or more years have accumulated since the date of issuance of the original French standard airworthiness certificate or the date of issuance of the original French or

EASA export certificate of airworthiness as of the effective date of this AD: Within 4 months after the effective date of this AD, perform simultaneous detailed visual inspections of the IPGB and of the DDS on flap tracks 2 and 4 on both wings for corrosion and wear detection. For any Type 3 damaged parts on flap tracks 2 and 4, do all applicable corrective actions before further flight. For any Type 2 damaged IPGB parts on flap tracks 2 and 4, do all applicable corrective actions within 18 months after doing the inspection required by paragraph (g)(1)(ii) of this AD.

(A) For wings on which Type 3 damage is found on the DDS of flap track 2 or 4, perform simultaneous detailed visual inspections of the IPGB and of the DDS on flap track 3 on both wings for corrosion and wear detection. For Type 3 damaged parts on flap track 3, do all applicable corrective actions before further flight. For Type 2 damaged IPGB parts, on flap track 3, do all applicable corrective actions within 18 months after doing the inspection required by paragraph (g)(1)(ii)(A) of this AD.

(1) For wings on which Type 3 damage is found on the DDS of flap track 3, before further flight, perform simultaneous detailed visual inspections of the IPGB and of the DDS on flap tracks 1 and 5 on both wings for corrosion and wear detection. For Type 3 damaged parts on flap tracks 1 and 5, do all applicable corrective actions before further flight. For Type 2 damaged IPGB parts on flap tracks 1 and 5, do all applicable corrective actions within 18 months after doing the inspection required by paragraph (g)(1)(ii)(A)(1) of this AD.

(2) For wings on which no Type 3 damage is found on the DDS of flap track 3, within 18 months after doing the inspection required by paragraph (g)(1)(ii)(A) of this AD, perform simultaneous detailed visual inspections of the IPGB and of the DDS on flap tracks 1 and 5 on both wings for corrosion and wear detection. For any Type 3 damaged parts on flap tracks 1 and 5, do all applicable corrective actions before further flight. For any Type 2 damaged IPGB parts on flap tracks 1 and 5, do all applicable corrective actions within 18 months after doing the inspection required by paragraph (g)(1)(ii)(A)(2) of this AD.

(B) For wings on which no Type 3 damage is found on the DDS of flap track 2 and 4: Within 18 months after doing the inspection required by paragraph (g)(1)(ii) of this AD, perform simultaneous detailed visual inspections of the IPGB and of the DDS on flap tracks 1, 3, and 5 on both wings for corrosion and wear detection. For any Type 3 damaged parts on flap tracks 1, 3, and 5, do all applicable corrective actions before further flight. For Type 2 damaged IPGB parts on flap tracks 1, 3, and 5, do all applicable corrective actions within 18 months after doing the inspection required by paragraph (g)(1)(ii) of this AD.

(iii) Within 30 days after performing an initial inspection required by paragraph (g)(1)(i) or (g)(1)(ii) of this AD, or within 30 days after the effective date of this AD, whichever occurs later, report the initial inspection results only, whatever they are, to Airbus as specified in the reporting sheet of the applicable service information listed in Table 1 of this AD.

(iv) Within 6 years after performing the applicable inspection required by paragraph (g)(1)(i) or (g)(1)(ii) of this AD, and thereafter at intervals not exceeding 6 years: Perform simultaneous detailed visual inspections of the IPGB and of the DDS on all flap tracks on both wings for corrosion and wear detection and do all applicable corrective actions. For Type 3 damaged parts, do all applicable corrective actions before further flight. For Type 2 damaged IPGB parts, do all applicable corrective actions within 18 months after doing the inspection.

(2) For airplanes other than those identified in paragraph (g)(1) of this AD: Within 6 years after issuance of the original French standard airworthiness certificate or the date of issuance of the original French or EASA export certificate of airworthiness, or within 20 months after the effective date of this AD, whichever occurs later; and thereafter at intervals not exceeding 6 years; perform simultaneous detailed visual inspections of the IPGB and of the DDS on all flap tracks on both wings

for corrosion and wear detection and do all applicable corrective actions. For Type 3 damaged parts, do all applicable corrective actions before further flight. For Type 2 damaged IPGB parts, do all applicable corrective actions within 18 months after doing the inspection.

(3) Actions done before the effective date of this AD in accordance with the applicable service information specified in Table 2 of this AD are acceptable for compliance with the corresponding requirements of this AD.

Table 2 – Credit Service Information

| Airbus Mandatory Service Bulletin – | Revision – | Dated – |
|--|-------------------|--------------------|
| A330-27-3151 | Original | August 9, 2007 |
| A330-27-3152 | Original | August 9, 2007 |
| A330-27-3152 | 01 | March 19, 2008 |
| A330-27-3152 | 02 | September 23, 2008 |
| A340-27-4151 | Original | August 9, 2007 |
| A340-27-4152 | Original | August 9, 2007 |
| A340-27-4152 | 01 | March 19, 2008 |
| A340-27-5040 | Original | August 9, 2007 |
| A340-27-5040 | 01 | March 19, 2008 |

Note 1: Airbus should be contacted in order to get appropriate information for airplanes on which the original delivery date of the airplane is unknown to the operator.

FAA AD Differences

Note 2: This AD differs from the MCAI and/or service information as follows: No differences.

Other FAA AD Provisions

(h) The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, International Branch, ANM-116, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. Send information to ATTN: Vladimir Ulyanov, Aerospace Engineer, International Branch, ANM-116, FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 227-1138; fax (425) 227-1149. Before using any approved AMOC on any airplane to which the AMOC applies, notify your principal maintenance inspector (PMI) or principal avionics inspector (PAI), as appropriate, or lacking a principal inspector, your local Flight Standards District Office. The AMOC approval letter must specifically reference this AD.

(2) Airworthy Product: For any requirement in this AD to obtain corrective actions from a manufacturer or other source, use these actions if they are FAA-approved. Corrective actions are considered FAA-approved if they are approved by the State of Design Authority (or their delegated agent). You are required to assure the product is airworthy before it is returned to service.

(3) Reporting Requirements: For any reporting requirement in this AD, under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 et seq.), the Office of Management and Budget

(OMB) has approved the information collection requirements and has assigned OMB Control Number 2120-0056.

Related Information

(i) Refer to MCAI EASA Airworthiness Directive 2008-0026, dated February 12, 2008, and the service information specified in Table 1 of this AD, for related information.

Material Incorporated by Reference

(j) You must use the service information contained in Table 3 of this AD to do the actions required by this AD, unless the AD specifies otherwise.

Table 3 – Material Incorporated by Reference

| Airbus Mandatory Service Bulletin – | Revision – | Dated – |
|--|-------------------|--------------------|
| A330-27-3151, including Appendix 1 | 01 | March 19, 2008 |
| A330-27-3152, including Appendices 1 and 2 | 03 | February 22, 2010 |
| A340-27-4151, including Appendix 1 | 01 | March 19, 2008 |
| A340-27-4152, including Appendices 1 and 2 | 02 | September 23, 2008 |
| A340-27-5040, including Appendix 1 | 02 | September 23, 2008 |

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

(2) For service information identified in this AD, contact Airbus SAS–Airworthiness Office–EAL, 1 Rond Point Maurice Bellonte, 31707 Blagnac Cedex, France; telephone +33 5 61 93 36 96; fax +33 5 61 93 45 80, e-mail airworthiness.A330-A340@airbus.com; Internet <http://www.airbus.com>.

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

(4) You may also review copies of the 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/code_of_federal_regulations/ibr_locations.html.

Issued in Renton, Washington, on June 30, 2010.
Todd G. Dixon,
Acting Manager, Transport Airplane Directorate,
Aircraft Certification Service.



2010-15-08 The Boeing Company: Amendment 39-16374. Docket No. FAA-2010-0173; Directorate Identifier 2010-NM-076-AD.

Effective Date

(a) This AD becomes effective August 31, 2010.

Affected ADs

(b) This AD supersedes AD 2003-24-08, Amendment 39-13377.

Applicability

(c) This AD applies to all The Boeing Company Model 737-100, -200, -200C, -300, -400, and -500 series airplanes, certificated in any category.

Subject

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

Unsafe Condition

(e) This AD results from a report indicating that the inboard and outboard carriage spindles were fractured on the right outboard flap during approach to landing. We are issuing this AD to detect and correct cracked, corroded, or fractured carriage spindles and to prevent severe flap asymmetry, which could result in reduced control or loss of controllability of the airplane.

Compliance

(f) You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

RESTATEMENT OF CERTAIN REQUIREMENTS OF AD 2003-24-08, WITH UPDATED SERVICE INFORMATION

Compliance Times

(g) The tables in paragraph 1.E., "Compliance" of Boeing Alert Service Bulletin 737-57A1277, Revision 1, dated November 25, 2003, specify the compliance times for paragraphs (g) through (k) of this AD. For carriage spindles that have accumulated the number of flight cycles or years in service specified in the "Threshold" column of the tables, accomplish the gap check and nondestructive test (NDT) and general visual inspections specified in paragraphs (h) and (j) of this AD within the corresponding interval after December 4, 2003 (the effective date AD 2003-24-08), as specified in

the "Interval" column. Repeat the gap check and NDT and general visual inspections at the same intervals, except:

(1) The gap check does not have to be done at the same time as an NDT inspection; after doing an NDT inspection, the interval for doing the next gap check can be measured from the NDT inspection; and

(2) As carriage spindles gain flight cycles or years in service and move from one category in the "Threshold" column to another, they are subject to the repetitive inspection intervals corresponding to the new threshold category.

Work Package 2: Gap Check

(h) Perform a gap check of the inboard and outboard carriage of the left and right outboard mid-flaps to determine if there is a positive indication of a severed carriage spindle, in accordance with Work Package 2 of paragraph 3.B., "Work Instructions" of Boeing Alert Service Bulletin 737-57A1277, Revision 1, dated November 25, 2003.

Work Package 2: Corrective Actions

(i) If there is a positive indication of a severed carriage spindle during the gap check required by paragraph (h) of this AD, before further flight, remove the carriage spindle and install a new or serviceable carriage spindle in accordance with the "Work Instructions" of Boeing Alert Service Bulletin 737-57A1277, Revision 1, dated November 25, 2003; or Boeing Alert Service Bulletin 737-57A1218, Revision 5, dated February 9, 2009. If, as a result of the detailed inspection described in paragraph 4.b. of Work Package 2 of Boeing Alert Service Bulletin 737-57A1277, Revision 1, dated November 25, 2003, a carriage spindle is found not to be severed and no corrosion and no cracking is present, it can be reinstalled on the mid-flap in accordance with Boeing Alert Service Bulletin 737-57A1277, Revision 1, dated November 25, 2003; or Boeing Alert Service Bulletin 737-57A1218, Revision 5, dated February 9, 2009. After the effective date of this AD, use only Boeing Alert Service Bulletin 737-57A1218, Revision 5, dated February 9, 2009.

Work Package 1: Inspections

(j) Perform a NDT inspection and general visual inspection for each carriage spindle of the left and right outboard mid-flaps to detect cracks, corrosion, or severed carriage spindles, in accordance with the "Work Instructions" of Boeing Alert Service Bulletin 737-57A1277, Revision 1, dated November 25, 2003.

Work Package 1: Corrective Actions

(k) If any corroded, cracked, or severed carriage spindle is found during any inspection required by paragraph (j) of this AD, before further flight, remove the carriage spindle and install a new or serviceable carriage spindle in accordance with the "Work Instructions" of Boeing Alert Service Bulletin 737-57A1277, Revision 1, dated November 25, 2003; or Boeing Alert Service Bulletin 737-57A1218, Revision 5, dated February 9, 2009. After the effective date of this AD, use only Boeing Alert Service Bulletin 737-57A1218, Revision 5, dated February 9, 2009.

Parts Installation

(l) Except as provided in paragraph (i) of this AD: As of December 4, 2003, no person may install on any airplane a carriage spindle that has been removed as required by paragraph (i) or (k) of this AD, unless it has been overhauled in accordance with the "Work Instructions" of Boeing Alert Service Bulletin 737-57A1277, Revision 1, dated November 25, 2003; or Boeing Alert Service Bulletin 737-57A1218, Revision 5, dated February 9, 2009. After the effective date of this AD, use only Boeing Alert Service Bulletin 737-57A1218, Revision 5, dated February 9, 2009. To be eligible for installation under this paragraph, the carriage spindle must have been overhauled in accordance with the requirements of paragraph (m) of this AD.

(m) During accomplishment of any overhaul specified in paragraph (l) of this AD, use the procedures specified in paragraphs (m)(1) and (m)(2) of this AD during application of the nickel plating to the carriage spindle in addition to those specified in Chapter 20-42-09, Electrodeposited Nickel Plating, of the Boeing (737) Standard Overhaul Practices Manual. As of the effective date of this AD, use only Chapter 20-42-09, Electrodeposited Nickel Plating, of the Boeing (737) Standard Overhaul Practices Manual, Revision 25, dated July 1, 2009.

(1) The maximum deposition rate of the nickel plating in any one plating/baking cycle must not exceed 0.002-inches-per-hour.

(2) Begin the hydrogen embrittlement relief bake within 10 hours after application of the plating, or less than 24 hours after the current was first applied to the part, whichever is first.

Exception to Reporting Recommendations in Certain Service Bulletins

(n) Although Boeing Alert Service Bulletin 737-57A1277, Revision 1, dated November 25, 2003, recommends that operators report inspection findings to the manufacturer, this AD does not contain such a reporting requirement.

NEW ACTIONS REQUIRED BY THIS AD

Inspections, Measurements, and Overhauls of the Carriage Spindle

(o) At the applicable times specified in paragraph (o)(1) or (o)(2) of this AD: Do the detailed inspection for corrosion, pitting, and cracking of the carriage spindle, the magnetic particle inspection for cracking of the carriage spindle, measurements of the spindle to determine if it meets the allowable minimum diameter, and overhauls, and applicable corrective actions by accomplishing all the applicable actions specified in the Accomplishment Instructions of Boeing Alert Service Bulletin 737-57A1218, Revision 5, dated February 9, 2009. The applicable corrective actions must be done before further flight. Repeat these actions thereafter at intervals not to exceed 12,000 flight cycles on the carriage spindle or 8 years, whichever comes first.

(1) For Model 737-100, -200, -200C series airplanes, at the later of the times specified in paragraph (o)(1)(i) or (o)(1)(ii) of this AD:

(i) Before the accumulation of 12,000 total flight cycles on the carriage spindle since new or overhauled, or within 8 years after the installation of the new or overhauled part, whichever comes first.

(ii) Within 1 year after the effective date of this AD.

(2) For Model -300, -400, and -500 series airplanes, at the later of the times specified in paragraph (o)(2)(i) or (o)(2)(ii) of this AD:

(i) Before the accumulation of 12,000 total flight cycles on the carriage spindle since new or overhauled, or within 8 years after the installation of the new or overhauled part, whichever comes first.

- (ii) Within 2 years after the effective date of this AD.

Replacement of the Carriage Spindle

(p) For Model 737-100, -200, -200C series airplanes: Replace the carriage spindle with a new or documented (for which the service life, in total flight cycles, is known) carriage spindle, in accordance with Boeing Alert Service Bulletin 737-57A1218, Revision 5, dated February 9, 2009, at the later of the times specified in paragraphs (p)(1) and (p)(2) of this AD, except as required by paragraph (r) of this AD. Overhauling the carriage spindles does not zero-out the flight cycles. Total flight cycles accumulate since new.

(1) Before the accumulation of 48,000 total flight cycles on the new or overhauled carriage.

(2) Within three years or 7,500 flight cycles after the effective date of this AD, whichever occurs first.

(q) For Model 737-300, -400, and -500 series airplanes: Replace the carriage spindle with a new or documented (for which the service life, in flight cycles, is known) carriage spindle, in accordance with Boeing Alert Service Bulletin 737-57A1218, Revision 5, dated February 9, 2009, at the later of the times specified in paragraphs (q)(1) and (q)(2) of this AD, except as required by paragraph (r) of this AD. Overhauling the carriage spindles does not zero-out the flight cycles. Total flight cycles accumulate since new.

(1) Before the accumulation of 48,000 total flight cycles on the new or overhauled carriage.

(2) Within six years or 15,000 flight cycles after the effective date of this AD, whichever occurs first.

(r) For airplanes with an undocumented carriage: Do the applicable actions specified in paragraph (p) or (q) of this AD at the applicable time specified in paragraph (r)(1) or (r)(2) of this AD.

(1) For Model 737-100, -200, -200C series airplanes: Do the actions specified in paragraph (p) of this AD at the time specified in paragraph (p)(2) of this AD.

(2) For Model -300, -400, and -500 series airplanes: Do the actions specified in paragraph (q) of this AD at the time specified in paragraph (q)(2) of this AD.

Repetitive Replacements of Carriage Spindle

(s) For all airplanes: Repeat the replacement of the carriage spindle specified by paragraph (p) or (q) of this AD, as applicable, thereafter at intervals not to exceed 48,000 total flight cycles on the new or overhauled carriage spindle.

Alternative Methods of Compliance (AMOCs)

(t)(1) The Manager, Seattle Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. Send information to ATTN: Nancy Marsh, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 917-6440; fax (425) 917-6590. Or, e-mail information to 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(2) To request a different method of compliance or a different compliance time for this AD, follow the procedures in 14 CFR 39.19. Before using any approved AMOC on any airplane to which the AMOC applies, notify your principal maintenance inspector (PMI) or principal avionics inspector (PAI), as appropriate, or lacking a principal inspector, your local Flight Standards District Office. The AMOC approval letter must specifically reference this AD.

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

(4) AMOCs previously approved in accordance with AD 2003-24-08, Amendment 39-13377, for individual repairs are acceptable for compliance with the corresponding provisions of this AD. All other existing AMOCs are not acceptable.

Material Incorporated by Reference

(u) You must use Boeing Alert Service Bulletin 737-57A1218, Revision 5, dated February 9, 2009; Boeing Alert Service Bulletin 737-57A1277, Revision 1, dated November 25, 2003; and Chapter 20-42-09, Electrodeposited Nickel Plating, of the Boeing (737) Standard Overhaul Practices Manual, Revision 25, dated July 1, 2009, to do the actions required by this AD, unless the AD specifies otherwise.

(1) The Director of the Federal Register approved the incorporation by reference of Boeing Alert Service Bulletin 737-57A1218, Revision 5, dated February 9, 2009; and Chapter 20-42-09, Electrodeposited Nickel Plating, of the Boeing (737) Standard Overhaul Practices Manual, Revision 25, dated July 1, 2009; under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) The Director of the Federal Register previously approved the incorporation by reference of Boeing Alert Service Bulletin 737-57A1277, Revision 1, dated November 25, 2003, on December 4, 2003 (68 FR 67027, December 1, 2003).

(3) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P.O. Box 3707, MC 2H-65, Seattle, Washington 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; e-mail me.boecom@boeing.com; Internet <https://www.myboeingfleet.com>.

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

(5) You may also review copies of the 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/code_of_federal_regulations/ibr_locations.html.

Issued in Renton, Washington, on July 14, 2010.

Ali Bahrami,
Manager, Transport Airplane Directorate,
Aircraft Certification Service.