

# SECTION 9 - AIRWORTHINESS LIMITATIONS AND CERTIFICATION MAINTENANCE REQUIREMENTS

# A. MAINTENANCE DOCUMENTS SUPPORTING CERTIFICATION PROCESSES

The maintenance requirements described in the four documents listed below result from Model 737-600/700/700C/800/900/900ER airplane type certification activities and have been approved by the U.S. Federal Aviation Administration (FAA). Accordingly, these Certification Maintenance Requirements, Airworthiness Limitations and Special Compliance Items/Airworthiness Limitations documents are cross referenced in the Model 737-600/700/700C/800/900/900ER Type Certificate Data Sheet. These maintenance actions are mandatory and must be reviewed and included into each operator's maintenance program.

The scheduled maintenance tasks contained in the documents listed below may only be revised with the approval of the FAA Oversight Office. The FAA Oversight Office is the FAA office that currently has oversight responsibility for the type certificate of the Boeing Model 737-600/700/700C/800/900/900ER aircraft. Note: At the time of publication, the FAA Oversight Office is the FAA Boeing Aviation Safety Oversight Office (BASOO). Principal Airworthiness Inspectors (local regulatory authority) may not change these requirements or the intervals associated with these requirements.

Mandatory Maintenance Requirements Documents

The previously published MPD Section 9 was assigned Document Number D626A001-CMR. For consistency and standardization, the Document Number has been reassigned as D626A001-9.

D626A001-9-01, 737-600/700/700C/800/900/900ER Airworthiness Limitations (AWLs):

This document contains a listing of structures inspections that are for those Principal Structural Elements (PSEs) that do not receive adequate fatigue damage detection opportunity from the initial baseline structural program that is listed in Section 2. These tasks result from structural analyses performed to satisfy the requirement of 14 CFR 25.571. This document also contains listings of Structural Safe Life Parts, Engine Oil Consumption Limitations and Structural Limit of Validity information.

D626A001-9-02, 737-600/700/700C/800/900/900ER Airworthiness Limitations - Line Number Specific:

This document contains revisions to existing structures AWLs that were impacted by major non-conformance issues occurring during airplane production. Revised inspection requirements and inspection intervals will be listed in this document applicable to only certain production line no. airplanes. These inspections must be included in the operator's maintenance program as applicable. At this time there are no Line Number Specific AWLs for the 737-600/700/700C/800/900/900ER.

D626A001-9-03, 737-600/700/700C/800/900/900ER Certification Maintenance Requirements (CMRs):

This document contains maintenance requirements as required by 14 CFR 25.1309 and AC 25-19A. A CMR is a required periodic task to specific systems installations, established during the design certification of the airplane as an operating limitation of the type certificate. CMRs usually result from a formal, numerical analysis conducted to show compliance with catastrophic and hazardous failure conditions.

D626A001-9-04, 737-600/700/700C/800/900/900ER Special Compliance Items/Airworthiness Limitations:

This document contains scheduled inspections and design limitations for operators to incorporate into their maintenance program for this type design to meet the new standards and assumptions introduced by § 25.981 and Special Federal Aviation Regulation No. 88 (SFAR 88). This document also contains the reporting requirements for uncontrollable high thrust failure conditions.

D626A001-DTR, 737-600/700/700C/800/900/900ER Damage Tolerance Rating (DTR) Check Form Document



This document contains completed (filled) DTR Check Forms. These forms were used to develop a suggested Supplemental Structural Inspection Program (SSIP) which is part of the SSIP in the Maintenance Planning Data document D626A001. These completed DTR Check Forms also serve as examples to assist operators while completing their own DTR Check Forms.

For aircraft delivered after September 12, 2019, information regarding the effective revisions of these documents at the time each aircraft line number was issued its Original Standard Airworthiness Certificate can be found in MPD Section 9 and DTR Revision Effectivity Report letter MPE-RER-737NG-LNXXXX.

# B. HISTORICAL REVISION LOG

The Revision Log in this section contains the historical revisions to the MPD Section 9, D626A001-CMR prior to reformatting to the documents shown above. All previous revisions shown in the Revision Log are FAA approved and all signatures are on file.

## **REVISION DESCRIPTION**

SEPTEMBER 1997

Original Release.

FEBRUARY 1998

Added Note on Page 9.0-19 stating operators under JAR 25 Regulations are not allowed to escalate CMR task intervals.

Added one additional ATA 27 CMR that is applicable only to operators under JAR 25 Regulations. See Page 9.3-4.

**MARCH 1998** 

Changed statement on Page 9.0-9 Section A. Scope to include the 737-800.

Clarified statements on Pages 9.0-10 and 9.0-14 about escalations.

Updated airplane effectivity on Page 9.0-15.

Updated Life Limits on Page 9.0-17.

Deleted 38-CMR-01 due to redesigned component installed on delivered aircraft.

Added 73-CMR-01 to remove the engine hydro mechanical unit for inspection per CFM 56-7B Service Bulletin 73-016.

**APRIL 1998** 

Deleted 27-CMR-01. Subsequent qualification data has determined that the CMR is no longer required.

Added 251A4510-5 actuator to 27-CMR-02.

**JUNE 1998** 

Changed statement on Page 9.0-9 Section A. Scope to include the 737-600.

Updated Life Limits on Page 9.0.17.

SEPTEMBER 1998

Changed statement on Page 9.0-9, Section A. Scope to include the 737-700IGW.



### REVISION DESCRIPTION

## JUNE 2000

Revised document to include 737-700C airplane and 737-700IGW fuselage.

Revised paragraph and paragraph order in Section B on Page 9.0-13 to provide updated information pertaining to damage tolerance based inspection program for the fuselage and empennage.

Revised wording in second line of second paragraph on Page 9.0-17 to read "Note (1)" instead of "a note".

Revised titles and contents of the "Airworthiness Limitations - Structural Inspections" tables and included a column defining airplane applicability. Also moved these tables from the end of the document into Part B to be consistent with the document format of the other Boeing airplane models.

Revised threshold for PSE 53-40-16-2 from 75,000 flight cycles to 38,000 flight cycles.

Revised Table 9-2 by adding new PSE 55-20-09.

Deleted "SPECIAL STRUCTURAL INSPECTIONS" paragraphs from Section B as service bulletins will address these inspections.

Revised the Life Limits in Section C for the Main Landing Gear and Main Landing Gear Support Structure from 14,500 to 45,000 landings.

Revised Page 9.0-52 by deleting statement prohibiting JAA member state registries from escalating CMR task intervals. This change coordinated between Boeing and the JAA.

Revised the interval column for CMR 27-CMR-02 to reinstate the 4500 FH call out which was omitted in error from an earlier revision.

# JANUARY 2001

Revised inspection thresholds listed for PSEs 57-20-02, 57-20-03, 57-20-09, and 57-20-19 (Table 9-2) for airplanes, Line Numbers 740, 742, and 749 through 782.

# JANUARY 2001 R1

Revised inspection thresholds listed for PSEs 57-20-02, 57-20-03, and 57-20-09 (Table 9-2) for airplanes, Line Numbers 742, 749, 750, 751, 754, 755, 759, 760, and 762 through 782.

Revised the inspection thresholds listed for PSE 57-20-19 for airplanes 740, 742, and 749 through 782.

### **APRIL 2001**

Revised document to include the 737-900 airplane.

Revised the "Threshold" column of Table 9-2 to include 75,000 HRS for non-flight length sensitive entries.

Revised Page 9.0-15 last paragraph.

Removed reference to ED/AD and EDR/ADR, and replaced with "Baseline Structures Program".

In Table 9-2: Deleted supplemental inspection requirement for Item 53-10-12-1.

Revised threshold for 53-40-16-2 and added 53-40-16-2A.

Revised threshold for 53-70-08-3.

Added new section - Airworthiness Limitations - Systems.

This section adds an airworthiness limitation for oil consumption on the 737-900. This change is due to oil tank quantities versus range capability.

Added CMRs 27-CMR-04 and 27-CMR-05, related to the elevator tab.

# **APRIL 2001 R1**

Revised document to include 737-800 airplanes with full provisioning for winglets and 737-800 airplanes with winglets installation.

Added CMR 33-CMR-01, related to the 737-800 airplanes with winglets.

Revised applicability for oil consumption to add 737-800s with winglet provisions/installations.



#### REVISION DESCRIPTION

# AUGUST 2001

Revised document by adding a supplement inspection in Table 9-2 for PSEs 57-20 -01/-02/-03/-04/-05 and -08 for airplanes L/N 961 and on with wing panel wear strips. Revised CMR 27-CMR-04 to 27-CMR-06 due to a duplication with JAA 27-CMR-04.

### DECEMBER 2001

Revised document by updating the third paragraph in Section A on Page 9.0-15 that refers to the document revision date and effective Line Numbers.

Revised document by deleting statement on Page 9.0-21 regarding the MPD publication date of DTR Check Forms for the 737-800 and 737-900 winglet airplanes as publication has been accomplished.

Revised document by changing the applicability (model thresholds) in Table 9.2 for PSEs 53-40-16-2 and 53-40-16-2a.

Revised document by adding PSE 53-80-01-13 (applicable to L/N 1057 and on) to Table 9-2.

# APRIL 2002

Revised airplane applicability column in Table 9-2 for listing of PSEs 57-20-01, 02, 03, 04, 05, and 08 to provide coverage for airplanes incorporating Service Bulletin 737-57-1268.

## MAY 2002

Revised document to reflect damage tolerance analysis based supplemental inspection thresholds for horizontal stabilizer PSEs, including the 6 hinge elevator tab design incorporated at L/N 1175. All PSEs previously listed in Table 9-1 were moved to Table 9-2. Table 9-1 has now been deleted. A conservative interim threshold of 16,000 cycles was specified for all horizontal stabilizer, elevator and elevator tab PSEs. These thresholds are currently the subject of Regulatory review and will be increased at the completion of this review.

Revised CMRs 27-CMR-05 and 27-CMR-06 to be applicable to L/Ns 596 to 1174 only. In addition, provided MRB references (Item Nos. 27-095 and 27-097).

Added new CMRs 27-CMR-07, 27-CMR-08 and 27-CMR-09 related to the new elevator tab design incorporated at L/N 1175 and on.

### AUGUST 2002

Deleted CMR No. 33-CMR-01 because it is now covered by the Maintenance Review Board (MRB) Report.

Revised the airplane applicability for CMR Nos. 28-CMR-01 and 28-CMR-02, which are only applicable to airplanes with specific fuel pumps.

Added PSE 53-80-06-3 and PSE 53-80-07-3 to Table 9-2. These airworthiness limitations have conservative interim intervals which are currently being evaluated by the FAA. Upon completion of the evaluation, the airworthiness limitations will either be deleted or modified.

## OCTOBER 2002

Added CMR 52-CMR-01 to perform a functional check of the flight deck door locking and unlocking latch bolt mechanism on the decompression panel.

## **DECEMBER 2002**

Revised the maximum oil consumption rate of 0.250 gallons per hour for the Model 737-800 with winglets and the Model 737-900 airplanes to 0.310 and 0.340 gallons per hour respectively (Section D. AIRWORTHINESS LIMITATIONS – SYSTEMS).

Revised Airplane Applicability for Rudder Check CMR No. 27-CMR-03 (L/Ns 1-1267 airplanes that have not incorporated SB 737-27-1253).

Added Rudder Check CMR No. 27-CMR-10 for airplanes L/Ns 1-1267 airplanes that have incorporated SB 737-27-1253 and for airplane L/Ns 1268 and on.

Revised CMR Nos. 27-CMR-07 and 27-CMR-08 by providing the related MRB Item Numbers 27-095 and 27-096, respectively.



### REVISION DESCRIPTION

# MAY 2003

Added paragraph for the maximum oil consumption rate for the CFM56-7B27A engines installed on the model 737-700IGW (BBJ) in (Section D. AIRWORTHINESS LIMITATIONS - SYSTEMS).

Revised the following paragraph in (Section D. AIRWORTHINESS LIMITATIONS – SYSTEMS) to remove "models 737-800's with winglets installed and 737-900 airplane" to "models listed above".

### AUGUST 2003

Revised "A. Scope" paragraph to specify Aug 2003 revision and to delete statement "The FAA is considering issuance of an airworthiness directive to mandate these inspections for Line Numbers 1 through 1174.

Added page for reference to the deletion of Table 9-1 on Page 9.0-28.

Revised all Table 9-2 75,000 Flight Cycles Threshold items to 56,000 Flight Cycles pending FAA resolution.

Revised all the conservative temporary 16,000 flight cycle horizontal stabilizer thresholds (as listed in Table 9-2) initiated in May 2002 as follows:

Revised the incorrect threshold listing of 75,000 cycles/75,000 Hrs for PSE 53-80-05-1 to 56,000 cycles.

Revised threshold for PSE 55-10-08-5A from 16,000 cycles/75,000 hours to 36,000 cycles

Revised threshold for PSE 55-20-08 from 16,000 cycles/75,000 hours to 18,000 cycles.

Revised threshold for PSE 55-20-09 from 16,000 cycles/75,000 hours to 18,000 cycles.

Revised the remaining 16,000 cycles/75,000 Hrs conservative interim thresholds to 56,000 cycles.

Revised airplane applicability for PSE Nos. 53-10-04-1 from ALL to Airplane L/Ns 1 thru 1388.

Added new PSE Nos. 53-10-04-1A for airplane L/N's 1389 and on. New material on the Cab Window, AB Post forging materials being changed to 7050-T7452.

Added new PSE Nos. 53-80-01-14 as an inspection plan for the BS 1016 Bulkhead Web looking for Oil Cans as part of FAA Project (#TD7774SE-T).

Revised the conservative threshold for PSE Nos. 53-80-07-2 from 5000 cycles to 56,000 cycles following FAA review of the integrated bulkhead (FAA Project #TD6620SE-T) damage tolerance analysis. PSE Nos. 53-80-06-3 and 53-80-07-3 are deleted following a FAA review.

Revised airplane applicability for PSE Nos. 55-20-08-1, 55-20-08-2, 55-20-09-1, 55-20-09-2, 55-20-12 and 55-20-12-1.

Revised airplane applicability and changed thresholds for PSE Nos. 57-20-02, 57-20-03 and 57-20-09 to reflect the rework necessitated by Service Bulletin 737-57-1275. The 10,000 flight cycles or 10,000 flight hours thresholds were increased to 30,000 flight cycles or 30,000 flight hours for Line Numbers 740, 752, 753, 756, 757, 758 and 761.

Deleted Note (2) from the end of Table 9-2 as it is no longer necessary.

Revised airplane applicability for CMR Nos. 27-CMR-03, 27-CMR-05, 27-CMR-06, 27-CMR-07, 27-CMR-08, and 27-CMR-10.

Revised the "RELATED MRB ITEM NUMBER" for CMR Nos. 27-CMR-06 from 27-096 to 27-097 for 27-CMR-07 from 27-095 to

27-093 and 27-CMR-08 from 27-97 to 27-99.

Deleted CMR No. 27-CMR-09 following fatigue test substantiation of bearing material (see FAA Letter 120S-02-791 dated 09 September 2002).

# **APRIL 2004**

Revised CMRs 28-CMR-01 and 28-CMR-02 to delete reporting requirements for inspection results.

Added new CMR 28-CMR-03 to perform a functional check of the Center Tank Boost Pump Auto Shutoff System. This was added to comply with FAR 25.1309 by direction of FAA Aircraft Certification Office.



#### REVISION DESCRIPTION

# **JULY 2004**

Revised the reference of Appendix B to the new DTR document, D626A001-DTR dated July 2004 on page 9.0-26.

Revised PSEs 55-20-08 and 55-20-09 by adding reference that this task is applicable to operators that have not incorporated SB 737-55A1080.

Revised PSEs 55-20-08-2, 55-20-09-2 and 55-20-12-1 to include SB Reference Number 737-55-1081.

Revised Airplane Applicability to existing PSEs 57-20-03 to include 737-700 Airplanes L/N 1545 and on.

Added new PSEs 57-20-03 for 737-700 Airplanes L/N 1545 and on with or without winglets.

Revised existing PSEs 57-20-04 location description and/or Applicability.

Added new PSEs 57-20-04 for 737-700 Airplanes L/N 1545 and on with or without winglets.

Revised existing PSEs 57-20-05 location description and/or Applicability.

Added new PSEs 57-20-05 for 737-700 Airplanes L/N 1545 and on with or without winglets.

Revised Airplane Applicability to existing PSEs 57-20-29 to include Airplane 737-700 L/N 1545 and on with winglets.

Revised CMRs 27-CMR-07 and 27-CMR-08 task descriptions to include reference to SB 737-55-1081.

Revised CMR 52-CMR-01 to add related MRBR item number 52-360 and added an airplane note to specify which airplanes and Line Numbers are affected.

Added Section G which contains new airline operator reporting requirements for uncontrollable high thrust failure conditions or associated causal failures. This new section supports wording which will be added to the 737NG Type Certificate Data Sheet stating occurrences of these subject failure conditions may endanger the safe operation of the airplane and hence are reportable under 14 CFR 121.703(c), 125.409 and 135.415. Section G contains a listing of these failures. Reference Exemption No. 7968 "Partial Exemption from 25.901(c) as it relates to uncontrollable high thrust.

## AUGUST 2004

Added paragraph on Page 9.0-27 titled "Special Structural Inspections". This is a special inspection and action requirement of Boeing SB 737-53-1256.

Revised airplane applicability for PSE Nos. 53-10-04-2 and 53-10-04-4 for airplanes L/N 1 to 1388.

Added PSE Nos 53-10-04-2a and 53-10-04-4a due to cab window forging material changes applicable to L/N 1389 and On. (FAA Project TD7471SE-T).

Revised PSE Nos. 53-10-04-6 based on recent material data obtained from testing.

Revised the language in Section D. "AIRWORTHINESS LIMITATIONS - SYSTEMS" to provide clarification regarding special flight permits for 737-900 airplanes and 737-800 airplanes with winglets and to provide clarification regarding the applicable configuration for 737-700IGW airplanes with CFM56-7B27A engines.

## DECEMBER 2004

Added PSE 55-10-07-3 pertaining to the horizontal stabilizer side of body and bolts (FAA Project #TD8823SE-T).

Deleted PSE 53-80-01-14 due to production changes to be accomplished to the bulkhead, through (FAA Project #TD7775SE-T). Prior airplane inspections will continue to be required by Service Bulletin 737-53A1253.

## MAY 2005

Revised reference to D626A001-DTR revision date from "July 2004" to "December 2004" in paragraphs "Repeat Inspection Interval" and in "Reporting Results of Structural Inspections".

Added additional Special Inspections that are required inspection of the Horizontal Stabilizer Front Spar Attachment Bolts and Rear Spar Attachment Pins.

Added PSE 55-10-05-3 for horizontal stabilizer rear spar terminal fitting, side of body pins.



### REVISION DESCRIPTION

# **JULY 2005**

Revised reference to D626A001-DTR revision date from "December 2004" to "June 2005" in paragraphs "Repeat Inspection Interval" and in "Reporting Results of Structural Inspections".

Revised Special Structural Inspections for the Horizontal Stabilizer Front Spar Attachment Bolts and Rear Spar Attachment Pins. Included inspections for L/N 1-1634 (Front Spar Bolts) and L/N 1-1724 (Rear Spar Pins).

Deleted PSE 53-80-01-5 and replaced with PSE's 53-80-01-5A and 53-80-01-5B.

Added PSE 53-80-01-14 for oil can inspection for Line Number 1756 and on at 36,000 cycles.

Revised paragraph D. Airworthiness Limitation Systems for oil consumption on engines CFM56-7B27A from 0.19 gallons per hour to 0.25 gallon per hour.

Revised PSE 53-40-16-2 threshold from 65000 to 56000 due to typographical error.

### **NOVEMBER 2005**

Added heading for Engine Oil Consumption Limitation for clarity.

Added Nitrogen Generation System Airworthiness Limitations, including inspection and design limitations.

## **DECEMBER 2005**

Added new Fuel System Airworthiness Limitations section which includes an inspection of the center tank auto shutoff system.

Deleted 28-CMR-03 and replaced it with 28-AWL-19 to support SFAR 88 requirements.

## JANUARY 2006

Added three new Airworthiness Limitations:

- 1. Hot Short Protection Design Limitation
- 2. Motor Operated Valve Actuator Installation Limitation
- 3. Motor Operated Valve Actuator Repair Limitation.

## MARCH 2006

Added seventeen Fuel System Airworthiness Limitations to satisfy SFAR 88 requirements.

Revised 28-AWL-21 to clarify bonding measurement location in Step 1.f.

### MAY 2006

Added Pump Power Failed On protection system inspection 28-AWL-23.

Revised 47-AWL-01, 47-AWL-02, 47-AWL-03, and 47-AWL-04 to correct airplane applicability.

### OCTOBER 2006

Revised 28-AWL-21 to ensure that all motor operated valve configurations are addressed.

Added new motor operated valve inspection number 28-AWL-24 applicable to airplanes Line Number 1877 through 1980, 1982, and airplanes that have incorporated Service Bulletin 737-28A1207.

Added a functional check of the auxiliary fuel tank boost pump ground fault interrupter system number 28-AWL-20. Applicable to 737-600, -700, -700C, -800, and -900 airplanes starting with L/N 1978 and airplanes that have incorporated Service Bulletin 737-28A1201.

Revised 28-AWL-07 to clarify bonding measurement location.



### REVISION DESCRIPTION

## NOVEMBER 2006

Revised THRESHOLD airplane applicability to include 737-800 FPB (Flat Pressure Bulkhead).

Revised REPEAT INSPECTION INTERVAL to change DTR Document revision date from June 2005 to November 2006.

Revised document to include PSEs for the new -800 Flat Aft Pressure Bulkhead and associated structural changes for units which incorporate this option. A conservative interim threshold of 10,000 cycles was specified for these PSEs. These thresholds are currently the subject of regulatory review and will be increased at the completion of this review.

Revised the threshold for all fuselage and pressurized door structure (ATA 53 and 52, respectively) from 56,000 cycles to 50,000 cycles in response to regulatory guidance and to reflect that most flights will be at full cabin pressure of 8.35 PSID.

### NOVEMBER 2006 R1

Added text to A. Scope section in front matter, titled "Limitations Due to Increased Cabin Pressure". This is in reference to BBJ operators that incorporate SB 737-21-1149 to increase the internal cabin pressure.

Added Table 9-3 for BBJ operators that incorporate SB 737-21-1149 to increase the internal cabin pressure.

## **MARCH 2007**

Removed -700C, -700IGW and -900ER in the text throughout the document as it is called out in the Applicability section.

Revised applicability of individual Airworthiness Limitations tasks to replace "737/-600/-700/-800/-900" with "All".

Revised 28-AWL-20 interval from 3 years to 1 year based on Ground fault interrupter relay supplier reliability data, and task was changed from Functional to Operational. Also revised applicability to show new line position for production incorporation of the ground fault interrupter relay. The applicability was changed from L/N 1978 to 2210.

## MARCH 2007 R1

Added 26-CMR-01 to perform a detailed inspection of the center wing rear spar vapor web (fiberglass panels only) from inside the main gear wheel well.



### REVISION DESCRIPTION

MARCH 2007 R2

Revised A. Scope.

Table 9-2, PSEs 57-20-04, 57-20-05, 57-20-16, 57-20-17, 57-20-29 and 57-31-02 have a note added that clarifies the effectivity for winglet installations on the 737-700 and 737-800.

This revision also consists of changes that are for the 737-900ER wing, conservative inspection threshold information that is provided in B. Introduction and by Flag Note for specific 57-XX-XX PSEs in Table 9-2.

Changed Special Structural Instructions to Special Structural Inspections.

Revised PSEs in Table 9.2 to include -900ER effectivity as appropriate.

Revised PSE 53-10-12-1 DTR Check Form Title and Location Description.

Revised PSE 53-30-04-3 to remove statement "Also: PSE 53-40-03-3 Sta 540 to 727".

Added PSE 53-30-08-11, new forward cargo door upper sill inspection.

Revised PSE 53-40-03-3 to remove statement from Location Description "See Entry and DTR Form for PSE 53-30-04-3" and added "S-10L and S-10R, Sta 540 to 727 Upper Fastener Row, Upper Skin" to Location column.

Revised PSE 53-40-16-3 to correct airplane applicability.

Added PSE 53-40-19-3a, new landing gear support frame, Sta 716 inspection.

Added PSE 53-60-08-11, new aft cargo door upper sill inspection.

Added PSE 53-60-12-3 for new mid exit door surround upper main sill.

Added PSE 53-60-13-1 for new mid exit door surround stop fittings.

Revised PSEs 57-20-02, 57-20-03 and 57-20-09 to change the effectivity/thresholds by eliminating the 30,000 cycle/30,000 flight hour threshold for airplanes affected by Service Bulletin 737-57-1275 (AD 2005-24-03).

Added paragraph for the maximum oil consumption rate for the CFM56-7B engines installed on the model 737-900ER in (Section D. AIRWORTHINESS LIMITATIONS - SYSTEMS).

Added CMR 27-CMR-11 and 27-CMR-12, related to the 737-900ER airplanes.



#### REVISION DESCRIPTION

### FEBRUARY 2008

Revised PSE 53-40-03-3 by adding the threshold of 50000 cycles.

Revised PSE 53-80-01-14 airplane applicability from L/N 1057 and on to L/N 1756 and on.

Added new PSE 57-20-29 applicable to airplanes 700/800 line numbers 2566 and on with winglets installed due to re-design and material changes.

Revised Section E. Exceptional Short-Term Extensions to clarify process and notification requirements.

Revised the title of Section F. to read Fuel System Airworthiness Limitations.

Revised AWL 28-AWL-20 airplane Applicability from L/N 2210 and on to Airplanes 1981, 2093, 2210 and on and airplanes that have incorporated Service Bulletin 737-28A1201 and revised AMM reference from 28-22-00 to 28-22-41.

Revised 47-AWL-01 and 47-AWL-02 airplane applicability to include airplanes 2517, 2620 and on.

Revised 47-AWL-04 airplane applicability to include airplanes 2517, 2620 and on and revised interval from 9,675 Hrs to 22,500 Hrs.

Added new 47-AWL-05 task for Lightning Protection Shields Addition around Flame Arrestor.

Revised Section I. Certification Maintenance Requirements (CMRs) - Exception Short-Term Extensions to clarify process and notification requirements.

Revised CMR 26-CMR-01 airplane applicability from L/Ns 2093, 2216 and on to airplanes L/Ns 2093, 2216 through 2218, with excluding airplane L/N 2285. Added note for airplane that incorporated SB 737-57-1298 to use CMR 26-CMR-02.

Added new CMR 26-CMR-02 for airplane L/Ns 2285, 2319 and on and for airplanes that have incorporated SB 737-57-1298.

Revised Section K. Reporting Uncontrollable High Thrust Failure Conditions to incorporate "Reporting Uncontrolled High Thrust Failure Conditions" per FAR 121.703 and FAR 135.415.

### **MARCH 2008**

Revised 28-AWL-01 to remove 36000FH task interval limitation based upon engineering review and operator maintenance practice and removed body station and buttock line text and replaced with "per AMM 28-11-00".

Revised 28-AWL-03 to reflect the new maximum loop resistance values associated with the lightning protection of the unpressurized FQIS wire bundle installations so as to satisfy the Airworthiness Limitation Instructions required by SFAR 88. Also removed the joint resistance values and 36000FH task interval limitation based upon engineering review and operator maintenance practice.

Revised 28-AWL-06 to add an additional CMM reference 28-41-73 Rev 3 to task.

Revised 28-AWL-07 applicability by adding "equipped with densitometer" to clarify applicability.

Revised 28-AWL-08 to add revision levels to the CMM references.

Revised 28-AWL-13 to add CMM numbers in order to include the airplanes delivered with the original pumps.

Revised 28-AWL-17 to change the fay surface bond limit call out for the pressure relief valve from 1 ohm or less to 0.010 ohm (10 milliohms) or less.

## **APRIL 2008**

Added information to Section B., AIRWORTHINESS LIMITATIONS – STRUCTURAL INSPECTIONS regarding the conservative inspection threshold for the 737-900ER and fuselage skin under the wing-to-body fairings.

Added PSE Item Numbers 53-30-02-4 and 53-60-02-4, Fuselage Side Skin Panels Under the Wing-to-Body Fairing to Table 9-2, Airworthiness Limitations - Structural Inspections.

#### **JUNE 2008**

Revised applicability of 28-CMR-01 and 28-CMR-02 to indicate the task is applicable only to fuel pumps which are installed without Fuel Pump Ground Fault Interrupter.



### REVISION DESCRIPTION

### FEBRUARY 2009

Revised Section B. Introduction, to remove the conservative threshold for the Wing-to-Body fairings for the 737-900ER.

Revised title of "Special Structural Instructions" to "Special Structural Inspections".

Revised Tables 9-2 and 9-3 Airworthiness Limitations - Structural Inspections as a result of a reassessment of the fuselage and empennage items for the 737-900ER. Revised Tables 9-2 and 9-3 by adding note to declare the operational limit imposed by some tasks pending validation, publication, and regulatory acceptance of the associated inspection procedures.

# **MARCH 2009**

Added information to Section A., Scope, and Section B., Airworthiness Limitations - Structural Inspections to include applicability to the 737-900ER Boeing Business Jet 3 (BBJ3).

Added information to Section B., Airworthiness Limitations - Structural Inspections regarding the inspection threshold and specialized DTR Check Forms for Airworthiness Limitations pertaining to the wing of the 737-900ER (BBJ3) airplanes that incorporated SB 737-21-1149.

Added information to Flag Note for Table 9.2 Airworthiness Limitations - Structural Inspections to incorporate the inspection threshold and specialized DTR Check Forms pertaining to the wing of the 737-900ER (BBJ3) airplanes that incorporated SB 737-21-1149.

Revised Table 9.3 Airworthiness Limitations - Supplemental Inspections for Airplanes with SB 737-21-1149 to include applicability of select DTR Check Forms to model 737-900ER BBJ3.

Added Principal Structural Elements (PSEs) and associated DTR inspection details to Table 9.3 Airworthiness Limitations - Supplemental Inspections for Airplanes with SB 737-21-1149 applicable to model 737-900ER BBJ3.

# AUGUST 2009

Added information regarding removal of excess sealant when performing inspections.

### SEPTEMBER 2009

Revised Tables 9-2 and 9-3 to include reference to SB 737-53-1300.

Revised Table 9-3 by adding note requiring supplemental inspections for certain PSEs that have escalated the Baseline Structures Program.

### NOVEMBER 2009

Added information to Section A, SCOPE, AIRWORTHINESS LIMITATIONS-STRUCTURAL INSPECTIONS, regarding the inspection thresholds resulting from factory installation of winglets for the 737-700IGW airplanes.

Revised Table 9-2 by adding and updating notes to declare operational limit imposed by factory installed winglets for the 737-700IGW airplanes.

Added paragraph to Section D, AIRWORTHINESS LIMITATIONS - SYSTEMS for the maximum oil consumption rate for the CFM56-7B27A Engines, with no auxiliary fuel tanks installed, for the 737-700IGW (BBJ) model.



### REVISION DESCRIPTION

### JANUARY 2010

Revised Paragraph A. Scope to update applicability statements to reference model derivatives and to add the 737-900ER in the Table 9-2 reference.

Revised paragraph in the Airworthiness Limitations - Structural Inspections introduction to remove inspection limitations for

# 737-900ER.

Revised front matter section "Repeat Inspection Interval" to remove obsolete wording regarding blank DTR forms.

Revised Table 9-2 Airworthiness Limitations - Structural Inspections as a result of a reassessment of the wing and empennage items for the 737-900ER.

Revised Table 9-2 by adding a note to declare the inspection threshold and specialized DTR Check Forms pertaining to the wing of the 737-900ER (BBJ3) airplanes that incorporated SB 737-21-1149.

Revised Table 9-2 to increase conservative thresholds on the flat pressure bulkhead PSEs from 10,000 cycles to 50,000 cycles.

Deleted information to Flag Note 1 for Table 9-2 to remove the inspection threshold limitations for the 737-900ER wing.

Revised Table 9-3 information in several ATA 53 PSEs to maintain consistency with similar items in Table 9-2.

Revised 26-CMR-02 to reference correct AMM task procedure.

### MAY 2010

Revised Paragraph A. Scope to include applicability to the 737-700C TC Winglet airplanes.

Revised Table 9-2, Airworthiness Limitations – Structural Inspections, by updating Notes to declare the operational limit imposed by factory installed winglets for the 737-700C airplanes.

## **JULY 2010**

Revised the Life Limits in Section C for the Main Landing Gear and Main Landing Gear Support Structure from 45,000 to 75,000 landings.

Revised Airworthiness Limitations - Structural Safe Life Parts [1] to update document D101A801-14 to document D101A805-14.

Revised Airworthiness Limitations - Structural Safe Life Parts [2] to state the threshold limitation for the Hanger Link Pin (115A1610).

### AUGUST 2010

Revised Section H. Airworthiness Limitations – Nitrogen Generation System ALIs and CDCCLs by adding the "Final Flammability Rule, Paragraph III (F), Section 7, Paragraph M25.4 (a)" clarifying the compliance measures provided in the subsequent AWLs.

Revised 47-AWL-01 by updating the Applicability column to change the affected line numbers and include airplanes that have incorporated Service Bulletin 737-47-1002, by changing the title to replace FRS with NGS, by removing filament heating from the concern, by replacing the text "per AMM 47-21-07" with "(refer to Boeing AMM 47-21-07)", by refining the necessary conditions for maintenance of the bulkhead fitting and those corresponding maintenance actions, and by adding a note to declare that any change to the bulkhead fitting requires approval by the Seattle FAA ACO.

Revised 47-AWL-02 and 47-AWL-04 by updating the Applicability column to include airplanes that have incorporated Service Bulletin 737-47-1003.

Deleted 47-AWL-03 because it is no longer applicable to the subject airplanes.

Revised 47-AWL-05 by updating the Applicability column to include airplanes that have incorporated Service Bulletin 737-47-1003, by replacing the text "per AMM 47-21-08" with "(refer to Boeing AMM 47-21-08)", and by adding the text "or reinstalled".

Added 47-AWL-06, a 13,000 Flight Hour Operational Check of the Nitrogen Generation System Cross-Vent Check Valve.

Added 47-AWL-07, a 6500 Flight Hour Inspection of the Nitrogen Generation System NEA Distribution Ducting.

Added 47-AWL-08, an identification of the maintenance standard for the Nitrogen Generation System and notice of potential future compliance requirements associated with decreased aircraft descent rates.



### REVISION DESCRIPTION

### FFBRUARY 2011

Revised Section B by deleting the blank page following Figures 1 and 2.

Revised Section B by moving the Threshold Airplane Effectivity Line Number-specific information before the Figures to provide better data flow in the Threshold section.

Revised paragraph in Section B by deleting incorrect page number references for the locations of Figures 1 and 2.

Revised Section E by adding Sections E. 1. AWLs – FUEL SYSTEMS ALIS AND CDCCLs which contains the information formerly found in Section G (now reassigned) and E.2 AWLs – OTHER.

Revised the INTRODUCTION subsection of Section E by adding specification that AWLs may include Operational Checks (OPCs) and by clarifying the usage of the term "maintenance" in CDCCLs.

Revised the USE OF ALTERNATE TOOLS paragraph to specify conditions for permissible use of alternate tools, test equipment, or materials.

Revised the EXCEPTIONAL SHORT-TERM EXTENSIONS paragraph by updating "Flight Standards Handbook 8300.10" to "Flight Standards Handbook 8900.1 FSIMS" to reflect the current reference.

Revised Section F. PAGE FORMAT: AWLs – FUEL SYSTEMS table by making it a subheading of Section E, adding Operational Check (OPC), and then relettering the following headings accordingly.

Revised AWLs by replacing the word "per" with "refer to", wherever applicable.

Revised 28-AWL-07, 28-AWL-11, 28-AWL-15, 28-AWL-19, 28-AWL-20, and 28-AWL-22 through 28-AWL-24 to clarify the airplane applicability.

Revised 28-AWL-01 to clarify the inspection required and added an inspection of the wire sleeving, if installed.

Revised 28-AWL-02 to clarify which design features must be maintained.

Revised 28-AWL-03 to clarify the functional check that must be performed and the ohm limit requirements.

Revised 28-AWL-04 to clarify which design features must be maintained, dependent on the disruption of the ground path of each specified connector.

Revised 28-AWL-05 by replacing "EMI" with "EME" and deleting "outside of the tank". In addition, specified that new wiring is to be within 6.5 inches of FQIS wiring. Clarified wire spacing requirements and limitations for new and/or repaired/replaced wiring.

Revised 28-AWL-06, 28-AWL-08, and 28-AWL-13 to clarify the component vendor and applicable Component Maintenance Manual revision.

Revised 28-AWL-07 to clarify this CDCCL is applicable during installation of the Hot Short Protector and defined the features to maintain during installation. Added reference to Goodrich CMM 28-41-24 for testing.

Revised 28-AWL-09 to clarify that repair and overhaul of the FQIS in-tank wire harnesses must be Seattle FAA ACO approved and defined what design features must be maintained when installing the FQIS spar penetration connector.

Revised 28-AWL-10 to clarify what design features must be maintained if the bulkhead fitting is removed and replaced.

Revised 28-AWL-11 to clarify what design features must be maintained if the bulkhead fitting or attached tubing is removed or replaced.

Revised 28-AWL-12 to clarify the maintenance actions requiring approval by the Seattle FAA ACO, and to specify installation requirements that accompany those actions.

Revised the title for 28-AWL-14 from "AC Fuel Pump Fault Current Bonding Strap Installation" to "AC Fuel Pump Fault Current Bonding Jumper Installation", replaced "straps" with "jumpers", and clarified what design features must be maintained during pump replacement.

Revised 28-AWL-15 to define what design features must be met during float switch replacement.

Revised the title of 28-AWL-16 from "Fuel Tank Access Doors - Lightning Protection Bond" to "Fuel Tank Access Doors - Lightning Protection"; clarified door position numbers that require maintenance action during fuel tank access door installation, and added requirements for when using a used gasket that is greater than five years old and the torque values when installing fuel tank access doors.

Revised the title of 28-AWL-17 from "Surge Tank Access Doors (533BB and 633BB) - Lightning Protection Bond" to "Surge Tank Access Doors (533BB and 633BB) - Lightning Protection", and added fastener and torque requirements.



#### REVISION DESCRIPTION

## FEBRUARY 2011. Continued

Revised 28-AWL-18 to clarify what must be accomplished prior to resetting the circuit breaker(s) or GFIs.

Revised 28-AWL-21 by adding "CDCCL" to the Task column. Clarified what design features must be maintained when the Spar Valve adapter plate, Spar Valve index, Spar Valve actuator, Cross-feed Valve adapter plate, Cross-feed index plate, or Cross-feed Valve actuator is removed and replaced for 737-600, -700, -700C, -700IGW, -800, and -900 airplanes starting with Line Numbers 1877 thru 1980, 1982, and airplanes that have incorporated Service Bulletin 737-28A1207. Clarified what must be maintained when the adapter plate, index plate, or actuator is removed and replaced for 737-600, -700C, -700IGW, -800,-900 airplanes; Line Number 1981, and airplanes starting with Line Number 1983 and on.

Revised the title of 28-AWL-22 from "Motor Operated Valve (MOV) Actuator - Repaired" to "Motor Operated Valve (MOV) Actuator -Removed or Repaired" and Added "if the actuator was removed or repaired" and Vendor Code V73760.

Revised 28-AWL-24 to clarify the functional check that is required.

Added AWL Number 28-AWL-101, instructions to do an Engine Fuel Suction Feed Operational Test.

Revised old Section J. PAGE FORMAT: CERTIFICATION MAINTENANCE REQUIREMENTS by making it a subheading of the new Section G.

Revised the Airplane Applicability for 27-CMR-05 and 27-CMR-06 from "-900 L/N 683 to 1174" to "Note" and added the following Applicability Note: "Applicable to 737-900 airplanes, L/N 683 to 1174, that have not incorporated SB 737-55-1081" to clarify airplane applicability.

Revised 47-AWL-07 by changing AMM reference from 47-21-00 to 41-00-00 to provide more applicable instructions for the associated maintenance procedure.

## **MARCH 2011**

Revised Section A. Scope by adding information on a production change that has been incorporated to increase the thickness of the horizontal stabilizer inspar lower skin, which affects all 737-600/700C/800/900ER models.

Revised Table 9-2 - Airworthiness Limitations - Structural Inspections by adding a flag note (<4>) to selected 55-10 PSE items, which concerns the inspection threshold for airplanes with a redesigned horizontal stabilizer inspar lower skin.

Revised subsections of Section E, INTRODUCTION and PAGE FORMAT: AWLs – FUEL SYSTEMS by removing references to Operational Checks (OPCs) as a specific type of Airworthiness Limitation (AWL).

Revised Section E.2 – Other by deleting the text referencing Title 14 Code of Federal Regulations § 25.1301(a) and § 25.1309(b) and replacing it with the following: "This section of the AWLs contains FAA-approved scheduled inspections and design limitations for operators to incorporate into their maintenance program."

Revised 28-AWL-101 by changing the task type from an Operational Check (OPC) to an Airworthiness Limitation Instruction (ALI).



### REVISION DESCRIPTION

## JUNE 2011

Revised statement referring to DTR document D626A001-DTR by removing revision date as the Discrepant Structure Report Form can be used from any DTR document revision.

Revised flagnote descriptions in Table 9-2 to replace "factory installed winglets" with "production installed winglets" for reference consistency.

Revised text and organization in document Sections A and B (and elsewhere) to comply with FAA formatting specifications, including, but not limited to:

Revised references to 737 Next Generation major models from "737-600/700/800/900" to read "737-600/700/700C/800/900/900ER" to include -700C and -900ER as specific configurations.

Revised references to Federal Aviation Regulations (FARs) to more correctly cite the United States Code of Federal Regulations (CFR) Title 14.

Revised Section A. SCOPE by relocating the document effectivity information for airplanes with production installed winglets into a new Table 9-1 within Section B. AWLs - STRUCTURAL INSPECTIONS.

Revised Section A. SCOPE by relocating information specific to airplanes with conservative inspection thresholds on certain structural elements and airplanes that have incorporated Service Bulletin 737-21-1149 for Lower Cabin Altitude (LCA) to Section B.

Added paragraph to Section B to address accountability for the cumulative operational usage of Removable Structural Components.

Added paragraph to Section B to reference a new Appendix J to the MPD which contains the original task intervals for scheduled maintenance items which now use intervals escalated by the Industry Steering Committee but which must be reverted to meet Damage Tolerance requirements.

Revised Table 9-2 by changing number and format of item flag "(1)" to "<5>" to distinguish the marker and maintain document consistency.

Revised Table 9-3 by changing number and format of item flag "(1)" to "<2>" to distinguish the marker and maintain document consistency, and by eliminating applicability references to "BBJ (Boeing Business Jet)", which is not a certified type designation.

Revised Section B by eliminating requirements for removal of excess sealant for all airplanes except those modified for LCA and by adding and eliminating inspection requirements for the horizontal stabilizer front spar attachment bolts and rear spar attachment pins.

Revised Table 9.2 by incorporating new and revised Principal Structural Elements (PSEs) and associated inspections, DTR references, and threshold/interval data resulting from new certification data regarding excess production sealant application and from a reassessment of the horizontal stabilizer damage tolerance analysis.

### JULY 2011

Revised 47-AWL-02 to incorporate NGS performance features to show compliance with 14 CFR 26.33.

# AUGUST 2011

Revised Section D. Airworthiness Limitations – Systems to arrange the limitations for affected aircraft in numerical order of minor-model for ease of reference.

Deleted 26-CMR-01 as all potentially affected aircraft have either demonstrated freedom from the design concern or have implemented repairs that impose alternate

inspection limits, and therefore should only be subject to the requirements of 26-CMR-02.

Revised 26-CMR-02 to extend the applicability to include aircraft formerly exempt by being subject to 26-CMR-01, now deleted. Also removed reference to Service Bulletin 737-57-1298 as the bulletin was canceled prior to release.

Deleted secondary listing of 27-CMR-04 from the end of the CMR Task Table and incorporated the maintenance requirement details and the accompanying Applicability Note within the primary listing.

## OCTOBER 2011

Revised Section B. AWLs - Structural Inspections by revising 737-IGW to 737-700IGW to provide clarification that the IGW is a 737-700. Removed reference to winglet provisioning which clarifies that the limitation is against the wingleted aircraft. Removed reference to wing from conservative threshold limits since that analysis has been completed. Replaced reference to Note <5> with Note <1> to correspond to changes in Table 9-2. Revised horizontal stabilizer rear spar pin part numbers. Removed paragraph giving conservative inspection thresholds for the 737-900ER with LCA modification.



#### REVISION DESCRIPTION

## DECEMBER 2011

Revised Table 9-3 AIRWORTHINESS LIMITATIONS - SUPPLEMENTAL INSPECTIONS FOR AIRPLANES WITH SB 737-21-1149 to incorporate changes affected by excess sealant application.

# AUGUST 2012

Revised the title for Section E.2 from "AWLs - Other" to "ENGINE FUEL SUCTION FEED SYSTEM".

Revised Section E.2 front matter by adding the regulation Title 14 CFR § 25.951 requiring the engine fuel suction feed test. Provided the background and technical reason why the engine fuel suction feed test is a mandatory maintenance requirement.

Revised 28-AWL-101 to revise the interval to "7500 FH or 3 Yrs, whichever occurs first" to cover lower utilization operators and revise the center tank fuel quantity requirement. Added a notation that the excess fuel can be transferred to the opposite main tank to avoid defueling. Added a notation that the APU may be used to start the engine. Added clarification that a suction fuel feed system failing the operational test must be repaired and successfully pass the operational test prior to further flight.

## DECEMBER 2012

Added paragraph to Special Structural Inspections section which addresses special inspection requirements for operators that have incorporated SB 737-55-1096. Revised PSE Item 57-53-23-2 to update thresholds based on in production change to torque tube and provide interval applicability to those operators that have or have not incorporated SB 737-57A-1314.

Added PSE Item Number 57-10-05-6, Double Plus Chord, Upper Vertical Flange to Table 9-2.

Deleted Note 2 from ATA 57, FLS-2, PSEs which had operational limit placed against them pertaining to published inspection procedures being validated and published. Added Note 5 to Table 9-2 to provide clarification on inspection applicability for customer installed options.

Added Note 3 to Table 9-3 to provide clarification on inspection applicability for customer installed options.

### **MARCH 2013**

Added paragraph to Special Structural Inspection section which addresses special inspection requirements for operators that have incorporated SB 737-53-1335.

## **NOVEMBER 2013**

Added an Accomplishment Instructions - General Information section to clarify the use of "in accordance with" and "refer to" verbiage when referencing other Instructions for Continued Airworthiness documents.

Revised 28-AWL-12 to clarify when new repairs or new alterations involving new or altered penetrations to the fuel tanks need to be reviewed by the FAA Oversight Office and when a repair or alteration does not require additional FAA Oversight Office approval.

Revised 47-AWL-05 to clarify the airplane applicability of the lower lightning shield requirements and to clarify the sealed electrical fay surface bond requirements. Additionally requirements were added for the removal/replacement of the vertical stiffener.

## **DECEMBER 2013**

Revised Section B. AWLs - Structural Inspections by removing paragraph dealing with the conservative life limits for the horizontal stabilizer.

Revised Table 9-2 by removing flags <3> and <4> from ATA 55 PSEs due to updates with the 737NG Horizontal Stabilizer re-analysis.

Renumbered flagnote <5> to note <3> and all previous Note <5> references were updated to Note <3> to realign for clarity.

Revised the location description for PSEs 53-60-01-4 and 53-60-01-6 to make it applicable to the Chelton SATCOM antenna installation on the 900ER.



# **REVISION DESCRIPTION**

## **MARCH 2014**

Revised document to define FAA Oversight Office and replaced all references of "Seattle FAA ACO" with "FAA Oversight Office" throughout the entire document. References to FAA regulations were changed to include "Title 14 CFR §" to accurately reflect FAA regulation citations throughout the document and for consistency. Deleted "(Structural Inspections and Safe Life Limitations)" from the subparagraph "Airworthiness Limitations (AWLs)" under Section A to apply the requirements to all Airworthiness Limitations section.

Renamed Section D title from "AWLs - Systems" to "AWLs - Engine Oil Consumption Limitation".

Renamed Section E title from "AWLs - Fuel Systems" to "AWLs - Systems"

Revised Section E front matter with the following:

Changed "per" to "in accordance with" throughout the entire Section E except for the "per" in the AWL 28-AWL-04 and AWL 47-AWL-02. The word "per" in the AWL 28-AWL-04 was changed to "as specified in". The word "per" in the AWL 47-AWL-02 was replaced with "as required by".

Added the information on FAA approved Airworthiness Limitations required under Title 14 CFR § 43.16 and § 91.403 to the "Introduction" subparagraph.

Added references to SFAR 88 and Title 14 CFR § 25.981 regulations to the CDCCL paragraph under "Introduction" subparagraph.

Revised the ALIs paragraph under "Introduction" subparagraph to delete specific references to fuel tank ignition prevention since the ALIs are also used in AWLs that is not related to fuel tank ignition prevention.

Moved the "Regulatory Agency Approval", "AWL Revision Process", and "Accomplishment Instructions - General Information" to the after the "Introduction" subparagraph. Revised the "Regulatory Agency Approval" subparagraph to provide clarification that the operator not under the FAA jurisdiction should get the deviations from the AWL instructions from their local regulatory authority.

Revised "Accomplishment Instructions - General Information" subparagraph to delete "per" from the first bullet. Also, added reference to SWPM 20-20 for electrical bonding and grounding requirements.

Revised "Use Of Alternate Tools" to "Use of Alternate or Equivalent Tools, Test Equipment Or Materials" to provide clarification that deviation from the tools, test equipment or materials listed in the AWL will require approval from FAA Oversight Office. Also, added clarification that when "in accordance with" is used instead of "refer to", the CMM is FAA Oversight Office approved. Information for sealant type for inside and outside the tank is now defined in the new "Definitions" subparagraph.

Revised the "Exceptional Short-Term Extensions" subparagraph, changing "fuel system AWL" to "system AWL" to apply the front matter to all AWLs under Section E. Revised "(e.g., a Principal Maintenance Inspector)" to "or a Principal Maintenance Inspector".

Added new subparagraphs to Section E: "Definitions", to provide further clarification on accomplishment instructions, and "Supporting Documentation", to clarify that strict adherence to the methods, techniques and practices, as prescribed, is required to ensure the ALI or CDCCL is complied with.

Renamed "Page Format: AWLs - Fuel Systems" to "Page Format: System Airworthiness Limitations" to apply the front matter to all AWLs under Section E.



#### REVISION DESCRIPTION

## MARCH 2014. Continued

Renamed Section E.1 from "AWLs - Fuel Tank Ignition Prevention ALIs and CDCCLs" to "Fuel Tank Ignition Prevention" for consistency.

Revised Section E.1 front matter to add a reference to paragraph (b) of Title 14 CFR 25.981 (Amendment 25-102) to the second paragraph.

Revised AWL 28-AWL-12 to provide clarification that no additional FAA Oversight Office approval is required for new or altered fuel tank penetration when the SRM procedures, and/or Boeing Service Bulletins, and/or Boeing ODA approved repair/alterations include the paragraph "These data have been reviewed by the Boeing ODA for fuel tank ignition prevention requirements, and no further approval from the FAA Oversight Office is required to satisfy the requirements of CDCCL 28-AWL-12 provided the repair or alteration is accomplished in accordance with these instructions."

Revised 28-AWL-16 to add addition of Mobilegrease 33 as an approved gasket filling grease. Added clarification that when a gasket not meeting the requirements in step 4(a) to 4(c) is used, the gasket must be replaced with a gasket meeting all the requirements in step 4 within 30 days. Added clarification that the mesh gasket has to be vapor de-grease before using a different gasket filling material and prior to re-impregnating the knitted mesh gasket with grease or anti-corrosion compound when the new gasket is greater than five years old.

Re-numbered and Renamed Section F "AWLs - Nitrogen Generation System ALIs and CDCCLs" to E.3 "Nitrogen Generation System".

Re-numbered Section G "Certification Maintenance Requirements (CMR)" to Section F.

Revised the "Exception Short-Term Extensions" to change reference to Flight Standards Handbook from "8300.10" to "8900.1 FSIMS". Added number 3 to the 2nd to last paragraph and added "Note" for the last paragraph.

## MAY 2014

Revised the subparagraph "Accomplishment Instructions - General Information" in Section E to further clarify that when other ICA documents are referenced in the AWLs using "in accordance with", alternate procedures to accomplish the task will require FAA Oversight Office approval. When the ICA documents are referenced in AWLs using "refer to", alternative procedure may be developed in accordance with the operator's approved maintenance program procedures.

Revised 28-AWL-21 to "ALL" and show L/N applicability in the AWL "Description" column since the AD 2008-06-03 compliance time has passed for incorporation of the SB 737-28A1207.

Revised 28-AWL-22 to update the AWL applicability to remove the airplane L/N and Service Bulletin applicability and add an Applicability Note to list the applicable ITT MOV part numbers. Added in the reference to the CMM 28-20-25 for the new MOV part numbers MA30A1017.

Revised 28-AWL-24 to show L/N applicability since the AD 2008-06-03 compliance time has passed for incorporation of the SB 737-28A1207. Also, revised title from "MOV Actuator - Lightning and Fault Current Protection" to "Spar Valve MOV Actuator - Lightning and Fault Current Protection" for clarification.

Added AWL 28-AWL-25 to require the inspection of the fuel tank fillets seals and cap seals when maintenance is performed inside the fuel tanks.



# **REVISION DESCRIPTION**

### OCTOBER 2014

Deleted the Boeing submittal signature column from the Revision Log to improve the layout and provide consistency across all Section 9/AWL/CMR/SCI documents. A submittal signature will no longer be included in the revision log; only the FAA BASOO approval date will be shown.

Revised the Section E Front Matter "Definition" subparagraph to revise the "Removed or Replaced" definition to include reinstallation of component and added the definition for Maintenance, Fay Surface Bond, Fay Sealed Fay Surface Bond, Fillet Sealed Fay Surface Bond, and Full Cushion Clamp.

Revised 28-AWL-01 to reformat to meet the AWL guideline. Added references to Boeing SWPMs 20-10-13 and 20-10-22 for repairing of wiring.

Revised 28-AWL-02 to clarify that the external wiring over center fuel tank must maintain the existing wire bundle routing, clamping, and sleeving. Added reference to Boeing AMM 53-21-00 to provide access and inspection information to the area. Clarified specific SWPM references for wire assembly and installation, repair procedures, and seal fittings.

Revised 28-AWL-03 to group the loop resistance testing into airplanes without densitometer and airplanes with densitometer. Added vendor name for the loop resistance tester.

Revised 28-AWL-04 to only include the critical design requirement and deleting references to the maintenance actions such as loosening and tightening coupling ring. The reference to Boeing SWPM 20-20-00 was moved to a note at the end of the AWL.

Revised 28-AWL-05 to clarify the definition of FQIS wiring on the airplane, define criteria for specific wiring that has low enough energy that is not affected by this AWL, allows for the use of an LRU as a "Hot Short Protector", and clarify requirement for wiring installed less than 2.0 inches from the FQIS wiring.

Revised 28-AWL-06 to change the CMM IPC 28-41-73 revision level from 0 to 1 to reflect the correct FAA approved version. Also added clarification that the deviations from, temporary revisions, or Supplier Service Bulletin for these CMMs that have been approved by the FAA Oversight Office can be used for maintenance of these pumps. Added a notation that unless the specific portions of these CMMs are tagged as CDCCL or ALI, the entire CMM must be followed precisely.

Revised 28-AWL-07 to add a requirement for fay sealed fay surface bond on the bonding jumper lug.

Revised 28-AWL-08 to separate and identify the specific CMM for the FQIS tank units and compensators. Deleted the requirements for the densitometers. Also added clarification that any deviations from, temporary revisions, or Supplier Service Bulletin for these CMMs that have been approved by the FAA Oversight Office can be used for maintenance of these components. Added a notation that unless the specific portions of these CMMs are tagged as CDCCL or ALI, the entire CMM must be followed precisely.

Revised 28-AWL-09 to add requirements for wire bundle to maintain existing routing, clamping, or sleeving. Added requirement to verify that the wire harness, clamps, sleeving are not damaged and wires are not chafed. Clarified that the wire harness clearance between wires and structure must account for slack in all direction. Added requirement for fillet sealed fay surface bond for the spar penetration connector inside the tank and a fillet seal around the spar penetration connector on the outside of the tank.

Revised 28-AWL-10 to add additional critical design feature requirements that must be maintained when the hydraulic bulkhead fitting, hydraulic heat exchanger, and hydraulic tube in the fuel tank are removed and reinstalled or replaced.

Revised 28-AWL-11 to add a requirement for a fillet sealed fay surface bond between the bulkhead fitting and the front spar inside the tank.

Revised 28-AWL-12 to provide clarification that all required procedures relating to the new or altered fuel tank penetration does not need FAA Oversight Office approval if the statement that the data have been reviewed by the Boeing ODA for fuel tank ignition prevention requirements and no further approval from the FAA Oversight Office is required is included in the SRM, Boeing Service Bulletin, and Boeing ODA approved repair/alteration instructions.

Revised the title for 28-AWL-13 from "AC and DC Electrical Fuel Tank Pump Maintenance" to "AC and DC Fuel Pump Electrical/ Mechanical Design". Revised this AWL to separate and identify the specific CMM for the main tank boost pump, override pump, and the APU fuel pump. Also added clarification that the deviations from, temporary revisions, or Supplier Service Bulletin for these CMMs that have been approved by the FAA Oversight Office can be used for maintenance of these pumps. Added a notation that unless the specific portions of these CMM is tagged as CDCCL or ALI, the entire CMM must be followed precisely. Revised revision level for CMMs 28-22-05, 28-22-06, 28-22-09, and 28-20-02 to reflect the correct FAA approved revision.



# **REVISION DESCRIPTION**

## OCTOBER 2014. Continued

Revised 28-AWL-14 to clarify that two bonding jumpers are required between the pump motor impeller end-cap and the structure and the bonding jumpers and the pump motor impeller bonding clip is installed with the fay sealed fay surface bond for the AC pump. Added critical design features requirements for the DC pump.

Revised 28-AWL-15 to reformat the line items to meet the new guidelines.

Revised 28-AWL-16 to add a note that there are three types of doors (standard, impact resistant, and machined impact resistant). Revised Step 2 to verify there is no visible corrosion on the access door, clamp ring, and lower wing skin electrical faying surfaces instead of "corrosion free". Added metric conversion for the grease for the new knitted aluminum mesh gasket.

Revised 28-AWL-17 to add a requirement to verify that there is a fay surface bond between the pressure relief valve and the door. Added additional critical design features that must be verify when the when the upper duct or the upper duct and lower duct, depending on the door configuration, is removed and reinstalled or replaced. Clarified that there must not be any visible corrosion on the access door fastener countersinks.

Revised 28-AWL-18 to clarify that when the circuit breaker or GFI trips, a fault must be isolated and corrected using the Fault Isolation Manual procedures. Added additional requirements for conducting an insulation resistance testing on the fuel pump when no fault is found.

Revised 28-AWL-19 to list the critical testing requirements that must be verified for the boost pump automatic shutoff system.

Revised 28-AWL-20 to list the critical testing requirements that must be verified for the operational test of the boost pump GFI.

Revised 28-AWL-21 to streamline the critical design features requirement for the MOV actuator. Added clarification for fay sealed fay surface bond, and fillet sealed fay surface bond for the different installation requirement. Clarified the different requirement for spar valve actuator for those airplanes with a designated bond (L/N 1981 and 1983 and on) and those airplanes without a designated bond (L/N 1 through 1980 and 1982).

Revised 28-AWL-22 to provide clarification that the dielectric strength test is to be conducted prior to reinstallation on the aircraft.

Revised 28-AWL-23 to list the critical testing requirements that must be verified for the boost pump power failed on protection system.

Revised 28-AWL-24 to reformat the steps to meet the new AWL guidelines. Also deleted the step to restore the bond since it is covered in other ICA manuals.

Revised 28-AWL-25 to clarify that the inspection of the fillet seals and cap seals also include the touchpoints during transit to and from the tank access point.

Added 28-AWL-26 to add requirements to prevent electrostatic energy to be transferred to the tank. Any alterations involving new or altered design features for static dissipation protection inside the fuel tanks will require FAA Oversight Office approval unless it is accomplished in accordance with Systems and Installations Repair Manual, Structural Repair Manual Procedures, Boeing Service Bulletins, and/or Boeing ODA approved repair/alterations instructions.

Added 28-AWL-27 to provide relief when the requirements in AWL 28-AWL-18 Step 1(b) insulation resistance requirements of 5 megohms or greater in all power circuits is not met.

Added 28-AWL-28 for the inspection of the clamps and teflon sleeving (applicable to specific 737NG airplanes) for out-of-tank wire bundles installed on brackets that are mounted directly on the fuel tanks.

Added 28-AWL-29 for the periodic inspection of the out of tank wire bundles full cushion clamps and sleeving (applicable to specific 737NG airplanes) for out-of-tank wire bundles installed on brackets that are mounted directly on the fuel tanks.

Added 28-AWL-30 to identify critical design features that must be verified when installing the tank units or compensators.

Revised 28-AWL-101 to meet the new formatting guidelines and deleted Step 3 for next steps when the operational test fails since it is covered in other ICA manual.

Added "General Information" subparagraph to the front matter of Section E.3.



### REVISION DESCRIPTION

## OCTOBER 2014. Continued

Revised 47-AWL-01 to add clarification for the requirement of the bulkhead fitting with integral honeycomb flame arrestor and the fillet seal requirements. Added a step to verify that the fillet sealed fay surface bond is installed between the bulkhead fitting and the structure outside the tank. Deleted the step for the electrical bonding resistance from structure to first tube mating with the bulkhead fitting.

Revised 47-AWL-02 to delete the background information which has been moved to the NGS front matter section. Revised the verbiage to meet the new formatting guidelines.

Revised 47-AWL-04 to add an option to either replace the thermal switch or conduct the test for the thermal switch outlined in CMM 47-43-02. Also, added a list of the critical test requirements that must be verified for thermal switch test outlined in CMM 47-43-02.

Revised 47-AWL-05 to meet the new formatting guidelines and revised the NOTE in Step 3 to clarify the repairs and alterations that involve fuel tank penetrations must comply with 28-AWL-12.

Revised 47-AWL-06 to add the critical test requirement that must be verified for the operational check of the cross vent check valve.

Revised 47-AWL-07 to add the critical test requirements for the NEA distribution lines inspection.

Revised 47-AWL-08 to change the title from "Industry Fleet Average Flammability Exposure" to "NGS On-Going Compliance Based on Industry Descent Times - Required Service Instructions" to better reflect the intent of the AWL. Also added clarification that the operator is required to implement the service instructions related to industry descent times within the compliance time stated in the service instructions.

### **NOVEMBER 2014**

Added a new Section H. AWLs - Structural Limit of Validity (LOV) as required by Title 14 Code of Federal Regulations (CFR) Section 26.21 (Amendment 26-6).

## JANUARY 2015

Added PSE Item Number 53-60-01-9. Ku Band Antenna Installation to Table 9-2.

## **APRIL 2016**

Revised Subsection D. AWLs - Engine Oil Consumption Limitation into a table format with maximum oil consumption presented in units of US Quarts/Hour and Liters/Hour. Added maximum oil consumption for all minor models certified by Boeing and that were not previously included in Subsection D.

## **JULY 2016**

Revised D626A001-9 to move all content into each corresponding document as follows:

Subsection B, "AWLS - STRUCTURAL INSPECTIONS," has been moved to D626A001-9-01, "AIRWORTHINESS LIMITATIONS (AWLs)." Airworthiness Limitations Line Number Specific items will reside in D626A001-9-02, "AIRWORTHINESS LIMITATIONS - LINE NUMBER SPECIFIC."

Subsection C, "AWLS - STRUCTURAL SAFE LIFE PARTS," has been moved to D626A001-9-01, "AIRWORTHINESS LIMITATIONS (AWLs)."

Subsection D. "AWLS - ENGINE OIL CONSUMPTION LIMITATION." has been moved to D626A001-9-01. "AIRWORTHINESS LIMITATIONS (AWLs)."

Subsection E, "AWLS – SYSTEMS," has been moved to D626A001-9-04, "SPECIAL COMPLIANCE ITEMS/AIRWORTHINESS LIMITATIONS."

Subsection F, "CERTIFICATION MAINTENANCE REQUIREMENTS (CMRs)," has been moved to D626A001-9-03, "CERTIFICATION MAINTENANCE REQUIREMENTS."

Subsection G, "REPORTING UNCONTROLLABLE HIGH THRUST FAILURE CONDITIONS," has been moved to D626A001-9-04, "SPECIAL COMPLIANCE

ITEMS/AIRWORTHINESS LIMITATIONS."

Subsection H, "AWLS - STRUCTURAL LIMIT OF VALIDITY (LOV)," has been moved to D626A001-9-01, "AIRWORTHINESS LIMITATIONS (AWLs)."