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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2019-0715; Product Identifier 2019-NM-151-AD; Amendment 39-19760; AD 2019-20-07]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule; request for comments.

SUMMARY: The FAA is adopting an airworthiness directive (AD) for all The Boeing Company Model 787-8, 787-9, and 787-10 airplanes. This AD requires repetitive operational checks of the leading edge (LE) outboard (OB) slats and applicable on-condition actions. This AD also requires revising the airplane flight manual (AFM) to prohibit flap retraction under icing conditions and revising the existing maintenance or inspection program, as applicable, to incorporate a new operation check. This AD was prompted by a determination that the LE OB slat system could be out of position without flight deck annunciation. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective October 11, 2019.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of October 11, 2019.

The FAA must receive comments on this AD by November 25, 2019.

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

Federal eRulemaking Portal: Go to http://www.regulations.gov. Follow the instructions for submitting comments.

Fax: 202-493-2251.

Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminster Blvd., MC 110-SK57, Seal Beach, CA

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90740-5600; telephone 562-797-1717; internet https://www.myboeingfleet.com. You may view this referenced service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available on the internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2019-0715.

Examining the AD Docket

You may examine the AD docket on the internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2019-0715; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the regulatory evaluation, any comments received, and other information. The street address for Docket Operations is listed above. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Kelly McGuckin, Aerospace Engineer, Systems and Equipment Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3546; email: Kelly.McGuckin@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

The FAA has received a report indicating that five LE OB slat geared rotary actuators (GRA) failed during taxi, causing the associated slats to be out of the commanded position with flight deck annunciation. However, a subsequent review of the Boeing Model 787 high lift system identified a potential condition in which the LE OB slat system could be out of position without flight deck annunciation. This condition, if not addressed, could result in insufficient lift, resulting in inability to maintain continued safe flight and landing.

Related Service Information Under 1 CFR Part 51

The FAA reviewed Boeing Alert Requirements Bulletin B787-81205-SB270051-00 RB, Issue 001, dated July 5, 2019. This service information describes procedures for repetitive operational checks of the LE OB slats and applicable on-condition actions. On-condition actions include making sure fault messages are cleared (using fault isolation manual (FIM) procedures), making sure LE OB slats extend and fully retract, and operational checks of the LE OB slats in primary, secondary, and alternate modes. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

FAA's Determination

The FAA is issuing this AD because the agency evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

AD Requirements

This AD requires accomplishment of the actions identified in Boeing Alert Requirements Bulletin B787-81205-SB270051-00 RB, Issue 001, dated July 5, 2019, described previously, except for any differences identified as exceptions in the regulatory text of this AD. This AD also requires

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revising the AFM to prohibit flap retraction under icing conditions and revising the existing maintenance or inspection program, as applicable, to incorporate a new operation check.

For information on the procedures and compliance times, see Boeing Alert Requirements Bulletin B787-81205-SB270051-00 RB, Issue 001, dated July 5, 2019, at http://www.regulations.gov by searching for and locating Docket No. FAA-2019-0715.

Explanation of Requirements Bulletin

The FAA worked in conjunction with industry, under the Airworthiness Directive Implementation Aviation Rulemaking Committee (AD ARC), to enhance the AD system. One enhancement is a process for annotating which steps in the service information are "required for compliance" (RC) with an AD. Boeing has implemented this RC concept into Boeing service bulletins.

In an effort to further improve the quality of ADs and AD-related Boeing service information, a joint process improvement initiative was worked between the FAA and Boeing. The initiative resulted in the development of a new process in which the service information more clearly identifies the actions needed to address the unsafe condition in the "Accomplishment Instructions." The new process results in a Boeing Requirements Bulletin, which contains only the actions needed to address the unsafe condition (i.e., only the RC actions).

Interim Action

The manufacturer is currently developing a modification that will address the unsafe condition identified in this AD. Once this modification is developed, approved, and available, the FAA might consider additional rulemaking.

Justification for Immediate Adoption and Determination of the Effective Date

Section 553(b)(3)(B) of the Administrative Procedure Act (APA) (5 U.S.C.) authorizes agencies to dispense with notice and comment procedures for rules when the agency, for "good cause," finds that those procedures are "impracticable, unnecessary, or contrary to the public interest." Under this section, an agency, upon finding good cause, may issue a final rule without seeking comment prior to the rulemaking. Similarly, Section 553(d) of the APA authorizes agencies to make rules effective in less than thirty days, upon a finding of good cause.

An unsafe condition exists that requires the immediate adoption of this AD without providing an opportunity for public comments prior to adoption. The FAA has found that the risk to the flying public justifies waiving notice and comment prior to adoption of this rule because of a potential condition in which the LE OB slat system could be out of position without flight deck annunciation. This condition, if not addressed, could result in insufficient lift, resulting in inability to maintain continued safe flight and landing. The compliance time for the required action is shorter than the time necessary for the public to comment and for publication of the final rule.

Accordingly, notice and opportunity for prior public comment are impracticable and contrary to the public interest pursuant to 5 U.S.C. 553(b)(3)(B). In addition, for the reasons stated above, the FAA finds that good cause exists pursuant to 5 U.S.C. 553(d) for making this amendment effective in less than 30 days.

Comments Invited

This AD is a final rule that involves requirements affecting flight safety and was not preceded by notice and an opportunity for public comment. However, the FAA invites you to send any written data, views, or arguments about this final rule. Send your comments to an address listed under the ADDRESSES section. Include the docket number FAA-2019-0715 and Product Identifier 2019-NM-

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151-AD at the beginning of your comments. The FAA specifically invites comments on the overall regulatory, economic, environmental, and energy aspects of this final rule. The FAA will consider all comments received by the closing date and may amend this final rule because of those comments.

The FAA will post all comments received, without change, to http://www.regulations.gov, including any personal information you provide. The FAA will also post a report summarizing each substantive verbal contact received about this final rule.

Regulatory Flexibility Act

The requirements of the Regulatory Flexibility Act (RFA) do not apply when an agency finds good cause pursuant to 5 U.S.C. 553 to adopt a rule without prior notice and comment. Because the FAA has determined that it has good cause to adopt this rule without notice and comment, RFA analysis is not required.

Costs of Compliance

The FAA estimates that this AD affects 118 airplanes of U.S. registry. The FAA estimates the following costs to comply with this AD:

Estimated Costs for Required Actions *

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Repetitive operational checks	8 work-hours × $85 per hour = $680 per operational check	$0	$680 per operational check	$80,240 per operational check.
AFM revision	1 work-hour × $85 per hour = $85	0	$85	$10,030.

* Table does not include estimated costs for revising the existing maintenance or inspection program.

The FAA has determined that revising the existing maintenance or inspection program takes an average of 90 work-hours per operator, although this number may vary from operator to operator. In the past, the FAA has estimated that this action takes 1 work-hour per airplane. Since operators incorporate maintenance or inspection program changes for their affected fleet(s), the FAA has determined that a per-operator estimate is more accurate than a per-airplane estimate. Therefore, the FAA estimates the total cost per operator to be $7,650 (90 work-hours x $85 per work-hour).

The FAA has received no definitive data that would enable the agency to provide cost estimates for the on-condition actions specified in this AD.

Authority for This Rulemaking

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

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

This AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance

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of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has delegated the authority to issue ADs applicable to transport category airplanes and associated appliances to the Director of the System Oversight Division.

Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

(1) Is not a "significant regulatory action" under Executive Order 12866, and

(2) Will not affect intrastate aviation in Alaska.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39–AIRWORTHINESS DIRECTIVES

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

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

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

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2019-20-07 The Boeing Company: Amendment 39-19760; Docket No. FAA-2019-0715; Product Identifier 2019-NM-151-AD.

(a) Effective Date

This AD is effective October 11, 2019.

(b) Affected ADs

None.

(c) Applicability

This AD applies to all The Boeing Company Model 787-8, 787-9, and 787-10 airplanes, certificated in any category.

(d) Subject

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

(e) Unsafe Condition

This AD was prompted by a determination that the leading edge (LE) outboard (OB) slat system could be out of position without flight deck annunciation. The FAA is issuing this AD to address a potential condition in which the LE OB slat system could be out of position without flight deck annunciation. This condition, if not addressed, could result in insufficient lift, resulting in inability to maintain continued safe flight and landing.

(f) Compliance

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

(g) Required Actions

Except as specified by paragraph (h) of this AD: At the applicable times specified in the "Compliance" paragraph of Boeing Alert Requirements Bulletin B787-81205-SB270051-00 RB, Issue 001, dated July 5, 2019, do all applicable actions identified in, and in accordance with, the Accomplishment Instructions of Boeing Alert Requirements Bulletin B787-81205-SB270051-00 RB, Issue 001, dated July 5, 2019.

Note 1 to paragraph (g): Guidance for accomplishing the actions required by this AD can be found in Boeing Alert Service Bulletin B787-81205-SB270051-00, Issue 001, dated July 5, 2019, which is referred to in Boeing Alert Requirements Bulletin B787-81205-SB270051-00 RB, Issue 001, dated July 5, 2019.

(h) Exception to Service Information Specifications

For purposes of determining compliance with the requirements of this AD: Where Boeing Alert Requirements Bulletin B787-81205-SB270051-00 RB, Issue 001, dated July 5, 2019, uses the phrase "the Issue 001 date of Requirements Bulletin B787-81205-SB270051-00 RB," this AD requires using "the effective date of this AD."

(i) Airplane Flight Manual (AFM) Revision To Prohibit Flap Retraction Under Icing Conditions

Within 60 days after the effective date of this AD, revise the Limitations Section of the existing AFM to include the information in figure 1 to paragraph (i) of this AD. This may be done by inserting a copy of figure 1 to paragraph (i) of this AD into the Limitations Section of the existing AFM.

Figure 1 to paragraph (i): *AFM revision*

Flap Operation After Landing (Required by AD 2019-20-07)

In order to prevent failure of the slat drive system after landing, flaps must not be retracted if:

- Operating on the ground with ice, snow, slush, or standing water in icing conditions, or;
- An accumulation of airframe ice is observed or suspected.

Under circumstances where the flight crew deems it necessary to retract the flaps for safety reasons, they must notify maintenance via an approved means.

(j) Maintenance or Inspection Program Revision To Incorporate a New Operation Check

Within 60 days after the effective date of this AD, revise the existing maintenance or inspection program, as applicable, to incorporate the information specified in figure 2 to paragraph (j) of this AD. This may be done by inserting a copy of figure 2 to paragraph (j) of this AD into the existing maintenance or inspection program.

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Figure 2 to paragraph (j): *Maintenance or inspection program revision*

1. Cold Weather Maintenance Procedure – Handling

A. General

(3) After an airplane lands in icing conditions, do the OPERATION CHECKS - SLAT/FLAP INSPECTION in this task before retracting the slats/flaps.

NOTE: Icing conditions exist when OAT (on the ground) or TAT (in-flight only) is 50°F (10°C) or below, and any of the following exist:

- When visible moisture (clouds, fog with visibility of one statute mile (1600 m) or less, rain, snow, sleet, ice crystals, and so on) is present.
- When ice, snow, slush or standing water is present on the taxiways, or runways.

(a) Do this inspection to make sure that contaminants (ice, snow, slush) are not present which can either obstruct retraction of the LE slats or TE flaps, or freeze the slats to the fixed leading edge after retraction.

(b) The type and area of inspection is as follows:

1) Do an examination of the entire leading edge slats and trailing edge flaps areas.

G. Operation Checks

(1) **SLAT/FLAP INSPECTION**

After any landing in icing conditions, do this inspection with the slats/flaps (flaps 25 detent) fully extended (Figure 2):

WARNING: MAKE SURE THAT YOU USE THE NECESSARY PRECAUTIONS IF PERSONNEL ARE NEAR THE FLIGHT CONTROL SURFACES. THE FLIGHT CONTROL SURFACES CAN MOVE QUICKLY. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(a) Examine these areas for contaminants (ice, snow, slush):

1) Slats/flaps surfaces
2) Leading edge contact surfaces

NOTE: "Contact surfaces" refers to the areas of the slat and the fixed wing that will be in contact after slat retraction.

3) Slat actuation areas, including exposed areas of the slat track cavity, and slat cove
4) Flap tracks, hinges, seals

(b) Remove the contamination that you find.

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Figure 2 to paragraph (j): *Maintenance or inspection program revision continued*

(c) Confirm a contaminant-free condition in these areas immediately prior to retraction of the slats/flaps surfaces.
1) Slats/flaps surfaces
2) Leading edge contact surfaces
NOTE: "Contact surfaces" refers to the areas of the slat and the fixed wing that will be in contact after slat retraction.
3) Slat actuation areas, including exposed areas of the slat track cavity, and slat cove
4) Flap tracks, hinges, seals

(d) When the inspection is complete, do these steps:
NOTE: These steps make sure that the leading edge slat system is functional.
NOTE: Two persons are necessary to do these steps. One person will move the flap control lever in the flight compartment, and the other will confirm slat position from the ground.
1) Do not use Alternate mode to operate the surfaces.
NOTE: The Alternate mode only allows extension of slats to the Middle (sealed) position and not to the Extended (gapped) position.

WARNING: MAKE SURE THAT YOU USE THE NECESSARY PRECAUTIONS IF PERSONNEL ARE NEAR THE FLIGHT CONTROL SURFACES. THE FLIGHT CONTROL SURFACES CAN MOVE QUICKLY. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

2) Retract the leading edge slats to the full up position (Flaps UP detent).
a) Make sure that you visually confirm from the ground that the slats have retracted to the Retracted (up) position.
3) Extend the leading edge slats to the full extend position (Flaps 25 detent).
a) Make sure that you visually confirm from the ground that the slats have extended to the Extended (gapped) position.
4) Retract the leading edge slats to the full up position (Flaps UP detent).
a) Make sure that you visually confirm from the ground that the slats have retracted to the Retracted (up) position.

(e) When all of the above steps are completed, the OPERATION CHECKS - SLAT/FLAP INSPECTION is complete.

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Figure 2 to paragraph (j): *Maintenance or inspection program revision continued*

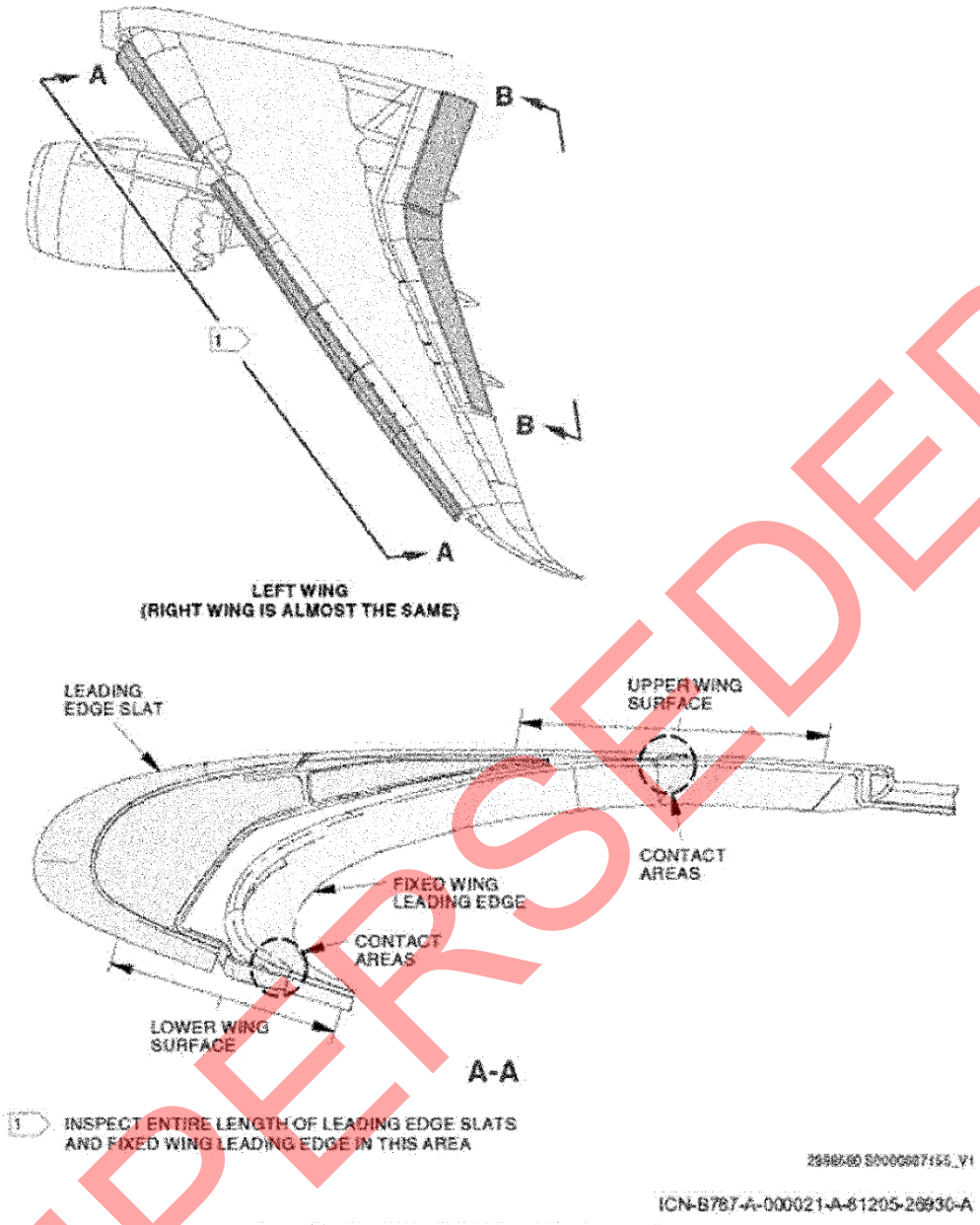

Figure 2 (Sheet 1 of 3) Slat and Flap Inspection

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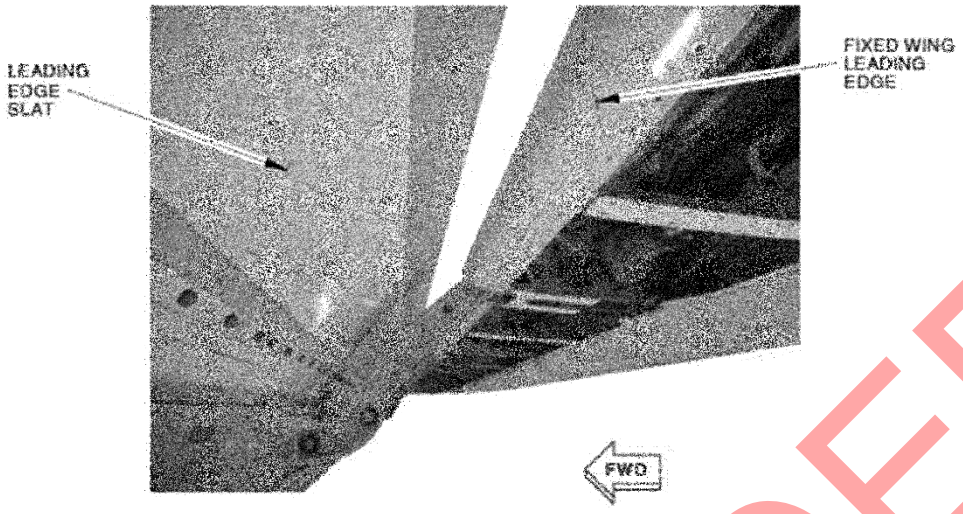
Figure 2 to paragraph (j): *Maintenance or inspection program revision continued*



ACTUATION AREAS
(TYPICAL)
A-A

SLAT TRACK CAVITY
(TYPICAL)
(VIEW IN THE AFT DIRECTION)
A-A

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Figure 2 (Sheet 2 of 3) Slat and Flap Inspection

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Figure 2 to paragraph (j): *Maintenance or inspection program revision continued*

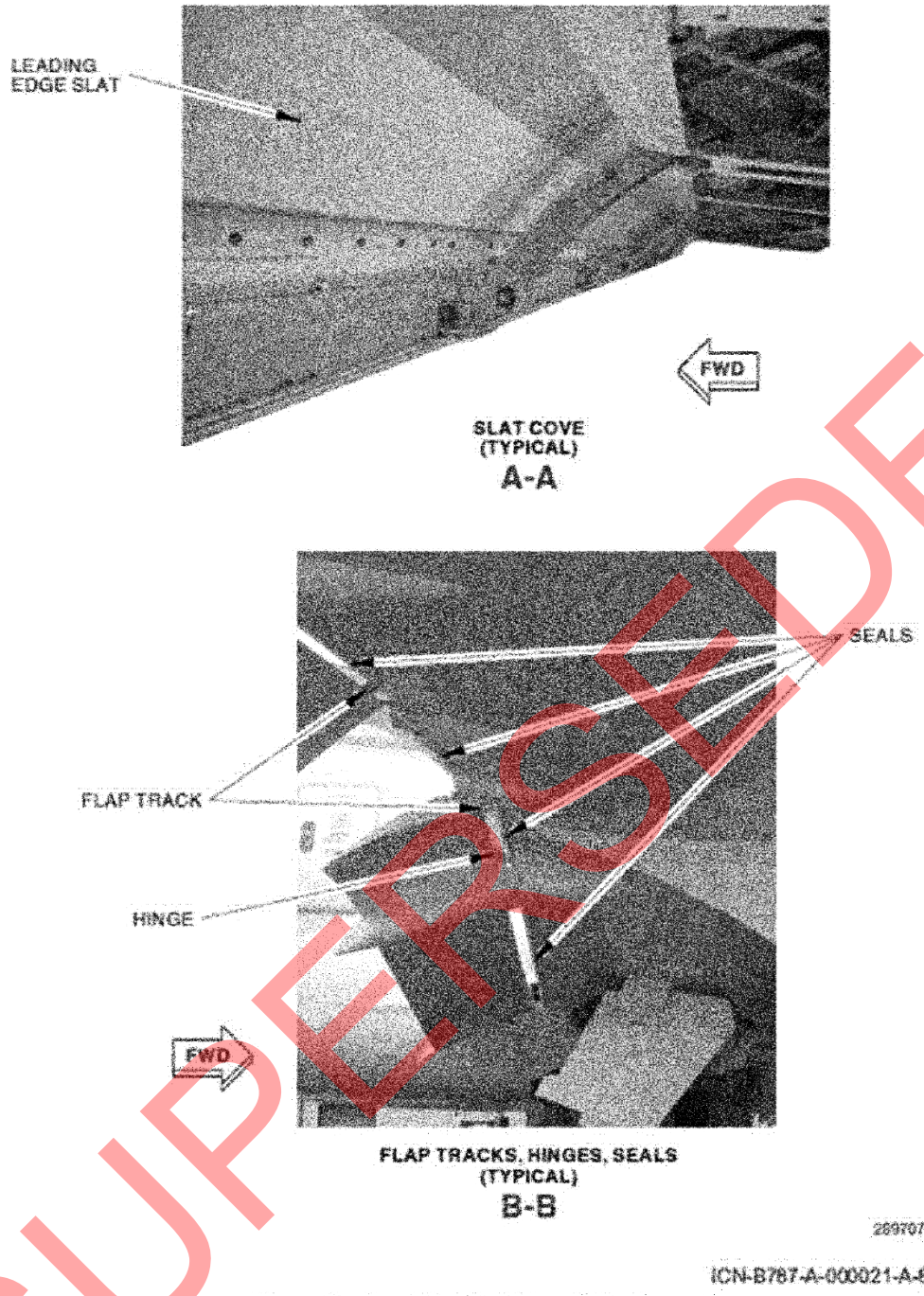

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Figure 2 (Sheet 3 of 3) Slat and Flap Inspection

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(k) No Alternative Actions or Intervals

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

(l) Alternative Methods of Compliance (AMOCs)

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

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

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

(m) Related Information

For more information about this AD, contact Kelly McGuckin, Aerospace Engineer, Systems and Equipment Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3546; email: Kelly.McGuckin@faa.gov.

(n) Material Incorporated by Reference

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

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

(i) Boeing Alert Requirements Bulletin B787-81205-SB270051-00 RB, Issue 001, dated July 5, 2019.

(ii) [Reserved]

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

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

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email fedreg.legal@nara.gov, or go to: http://www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued in Des Moines, Washington, on October 7, 2019.
Michael Kaszycki,
Acting Director, System Oversight Division,
Aircraft Certification Service.

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