

# Rules and Regulations

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## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA-2022-0458; Project Identifier AD-2021-00633-T; Amendment 39-22494; AD 2023-13-09]

RIN 2120-AA64

#### Airworthiness Directives; The Boeing Company Airplanes

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for all The Boeing Company Model 767 airplanes. This AD was prompted by reports of inoperative manual and alternate horizontal stabilizer trim switches. This AD requires repetitive inspections for immersion of each limit switch and position transmitter module (LSPTM) and of the LSPTM electrical wiring, repetitive inspections for blockage of the drain holes and cleaning of each drain hole, repetitive inspections for loose or cracked leveling compound, and applicable on-condition actions. For certain airplanes, this AD also requires installing two new drain holes, performing repetitive inspections for blockage of the drain holes and cleaning each drain hole, and applicable on-condition actions. The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective August 24, 2023.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of August 24, 2023.

#### ADDRESSES:

*AD Docket:* You may examine the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-0458; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except

Federal holidays. The AD docket contains this final rule, any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

#### Material Incorporated by Reference:

- For service information identified in this final rule, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; website [myboeingfleet.com](https://myboeingfleet.com).

- You may view this service information at the FAA, Airworthiness Products Section, Operational Safety 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 at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-0458.

#### FOR FURTHER INFORMATION CONTACT:

Doug Tsuji, Aviation Safety Engineer, FAA, 2200 South 216th St., Des Moines, WA 98198; phone: 206-231-3548; email: [Douglas.Tsuji@faa.gov](mailto:Douglas.Tsuji@faa.gov).

#### SUPPLEMENTARY INFORMATION:

#### Background

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to all The Boeing Company Model 767 airplanes. The NPRM published in the **Federal Register** on April 25, 2022 (87 FR 24276). The NPRM was prompted by reports of inoperative manual and alternate horizontal stabilizer trim switches, as a result of blocked drain holes in the area aft of body station (STA) 1725.5, which caused water to accumulate and eventually submerge the three LSPTMs, affecting their function. In the NPRM, the FAA proposed to require repetitive inspections for immersion of each LSPTM and of the LSPTM electrical wiring, repetitive inspections for blockage of the drain holes and cleaning of each drain hole, repetitive inspections for loose or cracked leveling compound, and applicable on-condition actions. For certain airplanes, the FAA proposed to also require installing two new drain holes, performing repetitive inspections for blockage of the drain

holes and cleaning each drain hole, and applicable on-condition actions. The FAA is issuing this AD to address collected water or ice that could damage the LSPTMs and cause stabilizer trim position sensors to generate corrupt or erroneous signals to the flight crew. This condition, if not addressed, could result in misleading or confusing flight deck indications, a high speed overrun during takeoff, or a low altitude stall immediately after takeoff.

#### Discussion of Final Airworthiness Directive

##### Comments

The FAA received comments from The Air Line Pilots Association, International (ALPA), United Airlines, and an individual who supported the NPRM without change.

The FAA received additional comments from four commenters, including UPS, FedEx, Delta Air Lines (Delta), and Aviation Partners Boeing (APB). The following presents the comments received on the NPRM and the FAA's response to each comment.

#### Effect of Winglets on Accomplishment of the Proposed Actions

APB stated that the installation of winglets per Supplemental Type Certificate (STC) ST01920SE does not affect the accomplishment of the manufacturer's service instructions.

The FAA agrees with the commenter that STC ST01920SE does not affect the accomplishment of the manufacturer's service instructions. Therefore, the installation of STC ST01920SE does not affect the ability to accomplish the actions required by this AD. The FAA has not changed this AD in this regard.

#### Request To Revise Inspection Interval

FedEx requested that the repetitive interval for the inspections specified in Boeing Alert Requirements Bulletin 767-27A0240 RB, dated January 19, 2021, be revised from 90 days to 225 days. FedEx noted that, in anticipation of an AD, it had begun inspecting all Model 767-300F aircraft at 90 day intervals, but could not maintain that schedule, and even a 120 day inspection interval was challenging to comply with. FedEx added that, during those initial inspections, it found only one aircraft with a clogged drain hole and no evidence of water pooling, damaged leveling compound, or damaged

LSPTMs in its fleet. Based on those findings, FedEx stated that it had revised its inspection intervals to 450 flight cycles (the equivalent of 225 days). FedEx noted that if the FAA mandates a 90 day repetitive interval, it will be forced to ground aircraft. FedEx concluded that a 225 day inspection interval would eliminate undue burden on operators while maintaining an acceptable level of safety.

The FAA partially agrees with the commenter's request. Based on the FAA's risk assessment, the FAA has determined that a 225 day interval, which equates to approximately 3 inspections during the 24 month interval before the new drain holes must be added, is not adequate to address the unsafe condition because the inspections would not be frequent enough. However, the FAA has determined that extending the interval to 150 days, which equates to approximately 5 inspections during the 24 month interval before the new drain holes must be added, provides an adequate level of safety. The FAA has added paragraph (h)(4) of this AD to specify the 150 day inspection interval.

#### **Request To Clarify Exception Language**

Delta requested that paragraph (h)(3) of the proposed AD be revised to clarify the intent. Delta claimed the wording is very confusing and initially lead it to believe that both service bulletins, Boeing Alert Requirements Bulletin 767-27A0243 RB, dated May 28, 2021, and Boeing Alert Requirements Bulletin 767-27A0240 RB, dated January 19, 2021, must be accomplished in 90 days. Delta added that it understands the intent of paragraph (h)(3) of the proposed AD is to address a discrepancy where Boeing Alert Requirements Bulletin 767-27A0243 RB, dated May 28, 2021, Action 1, gives a compliance time of 24 months to do Boeing Alert Requirements Bulletin 767-27A0240 RB, dated January 19, 2021, which in turn has an initial compliance time of 90 days. Delta suggested that paragraph (h)(3) could be clarified to specify the compliance times for each referenced bulletin.

The FAA agrees with the commenter's request. The FAA has revised paragraph (h)(3) of this AD to clarify that although Action 1 in Boeing Alert Requirements Bulletin 767-27A0243 RB, dated May 28, 2021, specifies to accomplish the actions in Boeing Alert Requirements Bulletin 767-27A0240 RB, dated January 19, 2021, within 24 months after the date of issuance of the original airworthiness certificate or original export certificate of airworthiness, or within 24 months after the original issue

date of Boeing Alert Requirements Bulletin 767-27A0243 RB, whichever occurs later; Boeing Alert Requirements Bulletin 767-27A0240 RB, dated January 19, 2021, contains the applicable compliance times for accomplishing the actions specified in Action 1. The applicable compliance times for all other actions in Boeing Alert Requirements Bulletin 767-27A0243 RB, dated May 28, 2021, is at the times specified in Boeing Alert Requirements Bulletin 767-27A0243 RB, dated May 28, 2021, except as specified in paragraph (h)(1) of this AD.

#### **Request To Delay AD Issuance Until Parts Are Available**

FedEx requested that the FAA delay issuance of a final rule until parts are available from Boeing. FedEx noted that it is planning to modify its aircraft as soon as possible, which would allow it to stop the repetitive inspections. However, FedEx stated that it has been trying unsuccessfully to order the necessary parts from Boeing since August, 2021. FedEx added that it was told the delivery schedule was "to be determined," causing it to miss many scheduled aircraft checks.

The FAA disagrees with the commenter's request. The FAA notes that this AD requires repetitive inspections until the terminating modification is accomplished, so delaying issuance of this AD would also delay those vital inspections. Additionally, the FAA has confirmed with the manufacturer that adequate parts will be available to comply with this AD in the required compliance time. This AD has not been changed regarding this issue.

#### **Request To Revise Certain Notes**

FedEx requested that the FAA revise Note 1 to paragraph (g)(1) and Note 2 to paragraph (g)(2). FedEx requested revised wording to ensure that the new AD would not require the service information referenced in those notes.

The FAA agrees to clarify. The wording in the notes is intended to inform operators that the service information specified contains additional guidance for accomplishing the required actions. The service information referenced in the notes is not mandated by this AD, and operators are not required to use it. This AD has not been changed regarding this issue.

#### **Request To Allow Skipping Close Access in Certain Situations**

Delta requested that the proposed AD be revised to allow operators to skip certain close access steps. Delta stated that certain conditions in Boeing Alert

Requirements Bulletin 767-27A0240 RB, dated January 19, 2021; and Boeing Alert Requirements Bulletin 767-27A0243 RB, dated May 28, 2021, include reference to close access or open access steps. Delta added that, based on how an operator would perform the steps, it doesn't make sense to close access when finishing the actions in one table, only to have to open access to begin work on the actions in the next table. Delta noted that some close access steps in Boeing Alert Requirements Bulletin 767-27A0240 RB, dated January 19, 2021, include a flagnote allowing operators to skip the close access steps if additional work is required. Delta concluded that the flagnote should have been included for close access steps throughout Boeing Alert Requirements Bulletin 767-27A0240 RB, dated January 19, 2021; and Boeing Alert Requirements Bulletin 767-27A0243 RB, dated May 28, 2021.

The FAA agrees to clarify. The close access steps are not listed in the "Action" or "Method of Compliance" columns in the referenced service information. Instead, the close access steps are in a "Refer to" column, which is for reference only; the procedures within that column are not required by this AD and are for guidance only. Therefore, operators may deviate from those steps using accepted procedures. Acceptable deviations include not performing close access steps until all applicable actions are completed. This AD has not been changed regarding this issue.

#### **Request To Not Require Certain Actions**

UPS requested that the proposed AD be revised to not require the actions specified in paragraph (g)(2) of the proposed AD. UPS stated that it understands that accomplishment of the repetitive inspections at the shorter interval specified in Boeing Alert Requirements Bulletin 767-27A0240 RB, dated January 19, 2021, is an acceptable means to detect and prevent the accumulation of water and ice in the area of the LSPTMs. UPS suggested that these frequent inspections provide an equivalent level of safety as adding new drain holes and inspections with a longer inspection interval. Therefore, UPS requested that the actions in paragraph (g)(2) of the proposed AD be made optional and terminate the actions in paragraph (g)(1) of the proposed AD if accomplished.

The FAA disagrees with the commenter's request. The addition of the two drain holes will create a configuration where multiple unique blockage events must occur before the accumulation of water or ice can

happen. The FAA has therefore determined that the addition of drain holes, combined with the repetitive inspections, cleaning, and on-condition actions, is the best method to address the unsafe condition. However, under the provisions specified in paragraph (i) of this AD, the FAA will consider requests for alternative methods of compliance (AMOCs). This AD has not been changed regarding this issue.

### Conclusion

The FAA reviewed the relevant data, considered any comments received, and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these products. Except for minor editorial changes, and any other changes described previously, this AD is adopted as proposed in the NPRM.

None of the changes will increase the economic burden on any operator.

### Related Service Information Under 1 CFR Part 51

The FAA reviewed Boeing Alert Requirements Bulletin 767–27A0240 RB, dated January 19, 2021, which specifies procedures for repetitive general visual inspections (GVIs) for immersion in water or ice of each LSPTM and of the LSPTM electrical wiring, repetitive GVIs for blockage of the three drain holes and cleaning of each drain hole, repetitive GVIs for loose or cracked leveling compound, and applicable on-condition actions. On-condition actions include removing any water or ice, doing a detailed inspection for damage (corrosion or water damage) of any immersed LSPTM or LSPTM electrical wiring, installing a serviceable LSPTM, repairing or replacing any damaged LSPTM

electrical wiring, clearing any drain hole blockages, and repairing any loose or cracked leveling compound.

The FAA also reviewed Boeing Alert Requirements Bulletin 767–27A0243 RB, dated May 28, 2021. This service information specifies procedures for installing two new drain holes, performing repetitive GVIs for blockage of the five drain holes and cleaning each drain hole, and applicable on-condition actions. On-condition actions include clearing any drain hole blockages.

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 ADDRESSES.

### Costs of Compliance

The FAA estimates that this AD affects 613 airplanes of U.S. registry. The FAA estimates the following costs to comply with this AD:

#### ESTIMATED COSTS

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Drill drain holes .....	5 work-hours × \$85 per hour = \$425 .....	\$2,770	\$3,195 .....	Up to \$1,958,535.
Repetitive GVI and cleaning of 5 drain holes.	2 work-hours × \$85 per hour = \$170 per inspection cycle.	0	\$170 per inspection cycle.	Up to \$104,210 per inspection cycle.
Repetitive GVI of LSPTM .....	1 work-hour × \$85 per hour = \$85 per inspection cycle.	0	\$85 per inspection cycle.	\$52,105 per inspection cycle.
Repetitive GVI of LSPTM electrical wiring	1 work-hour × \$85 per hour = \$85 per inspection cycle.	0	\$85 per inspection cycle.	\$52,105 per inspection cycle.
Repetitive GVI and cleaning of 3 drain holes.	1 work-hour × \$85 per hour = \$85 per inspection cycle.	0	\$85 per inspection cycle.	\$52,105 per inspection cycle.
Repetitive GVI of leveling compound .....	1 work-hour × \$85 per hour = \$85 per inspection cycle.	0	\$85 per inspection cycle.	\$52,105 per inspection cycle.

The FAA estimates the following costs to do any necessary inspections that would be required based on the

results of the inspection. The agency has no way of determining the number of

aircraft that might need these inspections:

#### ON-CONDITION COSTS

Action	Labor cost	Parts cost	Cost per product
Detailed inspection of LSPTM or LSPTM electrical wiring.	1 work-hour × \$85 per hour = \$85 .....	\$0	\$85

The FAA has received no definitive data on which to base the cost estimates for the other 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.

### 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,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

#### List of Subjects in 14 CFR Part 39

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

#### 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:

**2023–13–09 The Boeing Company:**  
Amendment 39–22494; Docket No. FAA–2022–0458; Project Identifier AD–2021–00633–T.

#### (a) Effective Date

This airworthiness directive (AD) is effective August 24, 2023.

#### (b) Affected ADs

None.

#### (c) Applicability

This AD applies to all The Boeing Company Model 767–200, –300F, –400ER, and –2C series 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 reports of inoperative manual and alternate horizontal stabilizer trim switches; an investigation found that certain drain holes were blocked, causing water and ice to collect and subsequently cover the limit switch and position transmitter modules (LSPTMs), which affected their function. The FAA is issuing this AD to address collected water or ice that could damage the LSPTMs and cause stabilizer trim position sensors to generate corrupt or erroneous signals to the flight crew. This condition, if not addressed, could result in misleading or confusing flight deck indications, a high speed overrun during takeoff, or a low altitude stall immediately after takeoff.

#### (f) Compliance

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

#### (g) Required Actions

(1) For all Model 767–200, –300, –300F, –400ER airplanes: Except as specified by paragraph (h) of this AD, at the applicable times specified in the “Compliance” paragraph of Boeing Alert Requirements Bulletin 767–27A0240 RB, dated January 19, 2021, do all applicable actions identified in, and in accordance with, the Accomplishment Instructions of Boeing Alert Requirements Bulletin 767–27A0240 RB, dated January 19, 2021.

**Note 1 to paragraph (g)(1):** Guidance for accomplishing the actions required by this AD can be found in Boeing Alert Service Bulletin 767–27A0240, dated January 19, 2021, which is referred to in Boeing Alert Requirements Bulletin 767–27A0240 RB, dated January 19, 2021.

(2) For Model 767–200, –300, –300F, and –400ER airplanes, as identified in Boeing Alert Requirements Bulletin 767–27A0243 RB, dated May 28, 2021: Except as specified by paragraph (h) of this AD, at the applicable times specified in the “Compliance” paragraph of Boeing Alert Requirements Bulletin 767–27A0243 RB, dated May 28, 2021, do all applicable actions identified in, and in accordance with, the Accomplishment Instructions of Boeing Alert Requirements Bulletin 767–27A0243 RB, dated May 28, 2021. Accomplishing the installation of two new drain holes required by this paragraph terminates the repetitive inspections of the drain holes required by paragraph (g)(1) of this AD.

**Note 2 to paragraph (g)(2):** Guidance for accomplishing the actions required by this AD can be found in Boeing Alert Service Bulletin 767–27A0243, dated May 28, 2021, which is referred to in Boeing Alert Requirements Bulletin 767–27A0243 RB, dated May 28, 2021.

(3) For Model 767–2C airplanes: Within 90 days after the effective date of this AD, inspect the LSPTMs, LSPTM electrical wiring, drain holes, and leveling compound; install two new drain holes as applicable; and do applicable on-condition actions in accordance with a method approved by the Manager, AIR–520 Continued Operational Safety Branch, FAA.

#### (h) Exceptions to Service Information Specifications

(1) Where Boeing Alert Requirements Bulletin 767–27A0243 RB, dated May 28, 2021, uses the phrase “the original issue date of the Requirements Bulletin 767–27A0243 RB,” this AD requires using “the effective date of this AD.”

(2) Where Boeing Alert Requirements Bulletin 767–27A0240 RB, dated January 19, 2021, uses the phrase “the original issue date of the Requirements Bulletin 767–27A0240 RB,” this AD requires using “the effective date of this AD.”

(3) Where Boeing Alert Requirements Bulletin 767–27A0243 RB, dated May 28, 2021, specifies a compliance time for Action

1 (accomplishment of Boeing Alert Requirements Bulletin 767–27A0240 RB, dated January 19, 2021), for this AD the compliance times for accomplishing the actions in Boeing Alert Requirements Bulletin 767–27A0240 RB, dated January 19, 2021, are as specified in paragraph (g)(1) of this AD.

(4) Where the “Repeat Interval (Not to Exceed)” column of the Compliance tables in Boeing Alert Requirements Bulletin 767–27A0240 RB, dated January 19, 2021, specifies “90 days,” this AD requires using “150 days.”

#### (i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, AIR–520 Continued Operational Safety 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 responsible Flight Standards Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (j)(1) of this AD. Information may be emailed to: [9-ANM-Seattle-ACO-AMOC-Requests@faa.gov](mailto: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 responsible Flight Standards 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, AIR–520 Continued Operational Safety 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.

#### (j) Additional Information

(1) For more information about this AD, contact Doug Tsuji, Aviation Safety Engineer, FAA, 2200 South 216th St., Des Moines, WA 98198; phone: 206–231–3548; email: [Douglas.Tsuji@faa.gov](mailto:Douglas.Tsuji@faa.gov).

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

#### (k) Material Incorporated by Reference

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

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

(i) Boeing Alert Requirements Bulletin 767–27A0240 RB, dated January 19, 2021.

(ii) Boeing Alert Requirements Bulletin 767–27A0243 RB, dated May 28, 2021.

(3) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110–SK57, Seal Beach, CA 90740–5600;

telephone 562-797-1717; website [myboeingfleet.com](http://myboeingfleet.com).

(4) You may view this service information at the FAA, Airworthiness Products Section, Operational Safety 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, [fr.inspection@nara.gov](mailto:fr.inspection@nara.gov), or go to: [www.archives.gov/federal-register/cfr/ibr-locations.html](http://www.archives.gov/federal-register/cfr/ibr-locations.html).

Issued on June 28, 2023.

**Michael Linegang,**

*Acting Director, Compliance & Airworthiness Division, Aircraft Certification Service.*

[FR Doc. 2023-15305 Filed 7-19-23; 8:45 am]

**BILLING CODE 4910-13-P**

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA-2023-0659; Project Identifier AD-2022-01404-T; Amendment 39-22508; AD 2023-14-08]

**RIN 2120-AA64**

#### **Airworthiness Directives; Gulfstream Aerospace Corporation Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for certain Gulfstream Aerospace Corporation Model GVII-G600 airplanes. This AD was prompted by an addition of a life limit in the Airworthiness Limitations Section (ALS) for GVII-G600 flap yokes. The life limit for the GVII-G600 flap yokes was informed by a GVII-G500 flap yoke failure that occurred during flight testing and, ultimately, resulted in additional test and analysis to establish more accurate life limits reflective of each model's design features and stress levels. The FAA is issuing this AD to require revising the existing ALS to prevent the GVII-G600 inboard flap yoke from remaining in service beyond its life limit. The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective August 24, 2023.

#### **ADDRESSES:**

*AD Docket:* You may examine the AD docket at [regulations.gov](http://regulations.gov) under Docket No. FAA-2023-0659; or in person at Docket Operations between 9 a.m. and

5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

#### **FOR FURTHER INFORMATION CONTACT:**

Jeffrey Johnson, Aviation Safety Engineer, FAA, 1701 Columbia Avenue, College Park, GA 30337; phone: 404-474-5554; email: [9-ASO-ATLACO-ADs@faa.gov](mailto:9-ASO-ATLACO-ADs@faa.gov).

#### **SUPPLEMENTARY INFORMATION:**

##### **Background**

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain Gulfstream Aerospace Corporation Model GVII-G600 airplanes. The NPRM published in the **Federal Register** on April 6, 2023 (88 FR 20436). The NPRM was prompted by an addition of a life limit in the ALS for GVII-G600 inboard flap actuator yoke fittings. Gulfstream revised the ALS to establish a life limit of 4,000 flight cycles. The FAA is issuing this AD to address decreased fatigue life of GVII-G600 inboard flap actuator yoke fittings and to prevent the GVII-G600 flap yoke from remaining in service beyond its life limit. An inboard flap actuator yoke fitting remaining in service beyond its life limit could result in the flaps being jammed in position, if fracture occurred. Additional failures in the flap actuator force limiter, or flap yoke actuator disconnect, could result in asymmetric flap positions leading to a loss of control of the airplane.

##### **Discussion of Final Airworthiness Directive**

##### **Comments**

The FAA received comments from Gulfstream Aerospace Corporation. The following presents the comments received on the NPRM and the FAA's response to each comment.

##### **Request To Clarify the Summary Section**

Gulfstream Aerospace Corporation states the summary statement does not accurately describe the condition or reason for this AD as the flap yoke fittings installed on GVII-G500 are not installed on any GVII-G600 aircraft. Gulfstream has added a limitation to the GVII-G600 ALS based on a reevaluation of the damage tolerance analysis considering the GVII-G500 flap yoke fitting failure. The shaft diameters on

both the inboard and outboard GVII-G600 flap yoke fittings are larger than the corresponding GVII-G500 configurations, and the operational stresses are lower.

The FAA agrees with adopting Gulfstream's recommended language for the Summary with two exceptions. The FAA will continue to reference the unsafe condition because it follows previous NPRM language for ALS revisions when establishing life limits. The FAA will also continue to reference the GVII-G500 failure as the life limit for the GVII-G600 flap yokes was informed by the GVII-G500 flap yoke failure that occurred during flight testing and resulted in additional test and analysis to establish more accurate life limits reflective of each model's design features and stress levels.

##### **Request To Clarify the Background Section**

Gulfstream Aerospace Corporation states there is no design flaw on the GVII-G600 flap yoke. The flap yoke fittings installed on GVII-G500 have a different design. A damage tolerance analysis was performed on the GVII-G600 inboard yoke fittings and determined that a life limit was necessary to protect the integrity of the flap actuation system. Gulfstream has requested the Background be changed to clarify this section.

The FAA agrees with Gulfstream and has revised the Background section accordingly. While the GVII-G600 does have design features known to reduce fatigue life, the use of the term 'design flaw' should not be applied to the GVII-G600 flap yoke fittings.

##### **Request To Clarify Paragraph (e) Unsafe Condition**

Gulfstream Aerospace Corporation states the GVII-G600 design is much more robust than the GVII-G500 design, and there is no design flaw with the GVII-G600 flap yoke. Through analysis, Gulfstream determined a life limit was needed to address all threats required under 14 CFR 25.571(a) and (b), including fatigue, corrosion, and accidental damage. Gulfstream acknowledges this AD is necessary to notify operators of a revision to the G600 ALS to incorporate life limits for the inboard flap actuator yoke fittings. Gulfstream requested a change to the unsafe paragraph to clarify the reason for this AD.

The FAA agrees to revise the language in paragraph (e) to remove reference to the GVII-G500 investigation as a need to establish a life limit. While the GVII-G500 flap yoke fitting failure incident did inform the fatigue effects, the FAA