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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2020-0116; Product Identifier 2019-CE-060-AD; Amendment 39-21026; AD 2020-02-18]**

**RIN 2120-AA64**

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

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

**ACTION:** Final rule; request for comments.

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**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for all Gulfstream Aerospace Corporation (Gulfstream) Models GVI, GVII-G500, and GVII-G600 airplanes. This AD requires revising the airplane flight manual (AFM) by attaching an airplane flight manual supplement (AFMS), which contains new or revised operating limitations, abnormal procedures, and emergency procedures. This AD was prompted by reports of continued flight after a flight control surface shutdown. If flight is continued after a flight control surface shutdown, the airplane is left without protection against flight control surface hard-over and force fight events on the remaining, operable flight control surfaces. The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective February 13, 2020.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of February 13, 2020.

The FAA must receive comments on this AD by March 30, 2020.

**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 <https://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: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this final rule, contact Gulfstream Aerospace Corporation, Technical Publications Dept., P.O. Box 2206, Savannah, GA 31402-2206; telephone: (800) 810-4853; fax: (912) 965-3520; email: pubs@gulfstream.com; internet: <https://www.gulfstream.com/customer-support>. For information on the availability of this material at the FAA, call (816) 329-4148. It is also available on the internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-0116.

## **Examining the AD Docket**

You may examine the AD docket on the internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-0116; 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, 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:** Myles Jalalian, Aerospace Engineer, Atlanta ACO Branch, FAA, 1701 Columbia Avenue, College Park, Georgia 30337; phone: (404) 474-5572; fax: (404) 474-5606; email: myles.jalalian@faa.gov.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

The FAA has received at least 30 reports of the flight control computer (FCC) commanding flight control surfaces into damped by-pass mode (surface shutdown). During the investigation of these events, it was discovered that the existing GVI and GVII airplane flight manuals, in most cases, allow continued flight after a surface shutdown, and the GVI airplane flight manual allows takeoff with an inboard spoiler shutdown.

The FCC commanding of a surface into damped by-pass mode is the protection provided against flight control hydraulic force fights and flight control surface hard-over events. If the FCC detects a flight control anomaly, it commands the surface into damped by-pass mode. The FCC software will not command a second surface on an axis of control into damped by-pass mode. Any flight control surface shutdown results in the loss of FCC-provided protection against future flight control surface hard-over and force-fight events on the remaining, operable flight control surfaces on that axis of control. In addition, certain other system failures will result in the loss of FCC protection against flight control surface hard-overs and force-fights.

Loss of flight control surface protection could lead to loss of structural integrity of the airplane and loss of control of the airplane. The FAA is issuing this AD to address the unsafe condition on these products.

### **Related Service Information Under 1 CFR Part 51**

The FAA reviewed Gulfstream Aerospace G650 Airplane Flight Manual Supplement No. G650-2019-04, dated December 16, 2019; Gulfstream Aerospace G650ER Airplane Flight Manual Supplement No. G650ER-2019-04, dated December 16, 2019; Gulfstream Aerospace GVII-G500 Airplane Flight Manual Supplement No. GVII-G500-2019-08, dated December 16, 2019; and Gulfstream Aerospace G600 Airplane Flight Manual Supplement No. GVII-G600-2019-02, dated December 16, 2019. For the applicable airplane designation, each AFMS contains new or revised operating limitations, abnormal procedures, and emergency procedures. These limitations and procedures prohibit flight operations if a flight control or flight control computer failure is detected and require landing as soon as possible if the failure occurs in flight. 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 FAA 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 revising the AFM for your airplane by attaching the applicable AFMS, which contains new or revised operating limitations, abnormal procedures, and emergency procedures. This AD specifies that the owner/operator (pilot) may revise the AFM. Revising an AFM is not considered a maintenance action and may be done by a pilot holding at least a private pilot certificate. This action must be recorded in the aircraft maintenance records to show compliance with this AD.

### **Interim Action**

The FAA considers this AD, which addresses continued flight after loss of flight control surface protection, an interim action. Gulfstream is analyzing the airplane flight control system software and developing additional action that will address the unsafe condition identified in this AD. Once this action is developed, approved, and available, the FAA may consider additional rulemaking.

### **FAA's Justification and Determination of the Effective Date**

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 continued flight after the loss of flight control surface protection leaves the airplane one failure away from a catastrophic event. Current AFM procedures allow continued flight after a system anomaly that would result in loss of flight control surface protection against force-flight and hard-over events, leaving the airplane at extremely high risk for loss of structural integrity of the airplane and loss of control of the airplane. Therefore, the FAA finds good cause that notice and opportunity for prior public comment are impracticable. In addition, for the reasons stated above, the FAA finds that good cause exists 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 Docket Number FAA-2020-0116 and Product Identifier 2019-CE-060-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 it receives, without change, to <https://www.regulations.gov>, including any personal information you provide. The FAA will also post a report summarizing each substantive verbal contact it receives about this final rule.

## Costs of Compliance

The FAA estimates that this AD affects 329 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
Attach the applicable AFMS to your AFM	1 work-hour × \$85 per hour = \$85	Not applicable	\$85	\$27,965

## 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 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 small airplanes, gliders, balloons, airships, domestic business jet transport airplanes, and associated appliances to the Director of the Policy and Innovation Division.

## 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.

## 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):



**2020-02-18 Gulfstream Aerospace Corporation:** Amendment 39-21026; Docket No. FAA-2020-0116; Product Identifier 2019-CE-060-AD.

**(a) Effective Date**

This AD is effective February 13, 2020.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to Gulfstream Aerospace Corporation Models GVI, GVII-G500, and GVII-G600 airplanes, all serial numbers, certificated in any category.

**(d) Subject**

Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 27, Flight Controls.

**(e) Unsafe Condition**

This AD was prompted by reports of continued flight after the flight control computer (FCC) has commanded flight control surfaces into a damped by-pass mode (surface shutdown). If flight is continued after a flight control surface shutdown, the airplane is left without protection against flight control surface hard-over and force fight events. The FAA is issuing this AD to provide operating limitations and flight crew procedures in the event of loss of protection against flight control surface hard-over and force fight events. The unsafe condition, if not addressed, could result in loss of structural integrity and loss of control of the airplane.

**(f) Actions and Compliance**

Comply with this AD within 15 days after February 13, 2020 (the effective date of this AD), unless already done.

(1) Revise the airplane flight manual (AFM) for your airplane by attaching the applicable airplane flight manual supplement (AFMS) specified in paragraphs (f)(1)(i) through (iv) of this AD. When these flight manual changes have been included in a future revision of the AFM, you may insert the revisions in the limitations, abnormal procedures, and emergency procedures sections of the AFM, provided the information is identical to that in the AFMS, and then you may remove the AFMS.

(i) Gulfstream Aerospace G650 Airplane Flight Manual Supplement No. G650-2019-04, dated December 16, 2019.

(ii) Gulfstream Aerospace G650ER Airplane Flight Manual Supplement No. G650ER-2019-04, dated December 16, 2019.

(iii) Gulfstream Aerospace GVII-G500 Airplane Flight Manual Supplement No. GVII-G500-2019-08, dated December 16, 2019.

(iv) Gulfstream Aerospace G600 Airplane Flight Manual Supplement No. GVII-G600-2019-02, dated December 16, 2019.

(2) The action required by paragraph (f)(1) of this AD may be performed by the owner/operator (pilot) holding at least a private pilot certificate and must be entered into the aircraft records showing compliance with this AD in accordance with 14 CFR 43.9(a)(1) through (4), and 14 CFR 91.417(a)(2)(v). The record must be maintained as required by 14 CFR 91.417, 121.380, or 135.439.

#### **(g) Special Flight Permit**

Special flight permits are prohibited for this AD in accordance with 14 CFR 39.23.

#### **(h) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Atlanta ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (j) of this AD.

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

#### **(i) Related Information**

For more information about this AD, contact Myles Jalalian, Aerospace Engineer, Atlanta ACO Branch, FAA, 1701 Columbia Avenue, College Park, Georgia 30337; phone: (404) 474-5572; fax: (404) 474-5606; email: myles.jalalian@faa.gov.

#### **(j) Material Incorporated by Reference**

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

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

(i) Gulfstream Aerospace G650 Airplane Flight Manual Supplement No. G650-2019-04, dated December 16, 2019.

(ii) Gulfstream Aerospace G650ER Airplane Flight Manual Supplement No. G650ER-2019-04, dated December 16, 2019.

(iii) Gulfstream Aerospace GVII-G500 Airplane Flight Manual Supplement No. GVII-G500-2019-08, dated December 16, 2019.

(iv) Gulfstream Aerospace G600 Airplane Flight Manual Supplement No. GVII-G600-2019-02, dated December 16, 2019.

(3) For service information identified in this AD, contact Gulfstream Aerospace Corporation, Technical Publications Dept., P.O. Box 2206, Savannah, GA 31402-2206; telephone: (800) 810-4853; fax: (912) 965-3520; email: pubs@gulfstream.com; internet: <https://www.gulfstream.com/customer-support>.

(4) You may view this service information at FAA, Policy and Innovation Division, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call (816) 329-4148.

(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](mailto:fedreg.legal@nara.gov), or go to: <https://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued on January 27, 2020.

Patrick R. Mullen,

Aircraft Certification Service, Manager, Small Airplane Standards Branch, AIR-690.

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