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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2016-9437; Directorate Identifier 2016-NM-131-AD; Amendment 39-18941; AD 2017-13-11]**

**RIN 2120-AA64**

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

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

**ACTION:** Final rule.

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**SUMMARY:** We are adopting a new airworthiness directive (AD) for all Model G-IV airplanes. This AD was prompted by a report indicating that the G-IV gust lock system allows more throttle travel than was intended and could allow the throttle to be advanced to reach take-off thrust. This AD requires modification of the gust lock system, and a revision of the maintenance or inspection program to incorporate functional tests. We are issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective August 3, 2017.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of August 3, 2017.

**ADDRESSES:** 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](mailto:pubs@gulfstream.com); Internet [http://www.gulfstream.com/product\\_support/technical\\_pubs/pubs/index.htm](http://www.gulfstream.com/product_support/technical_pubs/pubs/index.htm). You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-9437.

#### **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-2016-9437; 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 AD,

the regulatory evaluation, any comments received, and other information. The address for the Docket Office (phone: 800-647-5527) is Docket Management Facility, 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:** Gideon Jose, Aerospace Engineer, Systems and Equipment Branch, ACE-119A, FAA, Atlanta Aircraft Certification Office (ACO), 1701 Columbia Avenue, College Park, GA 30337; phone: 404-474-5569; fax: 404-474-5606; email: gideon.jose@faa.gov.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to all Gulfstream Aerospace Corporation Model G-IV airplanes. The NPRM published in the Federal Register on December 12, 2016 (81 FR 89397) (“the NPRM”). The NPRM was prompted by a report indicating that the G-IV gust lock system allows more throttle travel than was intended and could allow the throttle to be advanced to reach take-off thrust. The intended function of the gust lock system is to restrict throttle lever movement to a maximum of 6 degrees of forward travel, which provides an unmistakable warning to the pilot that the gust lock system is still engaged, prohibiting the use of the primary flight control surfaces. The NPRM proposed to require modification of the gust lock system, and a revision of the maintenance or inspection program to incorporate functional tests. We are issuing this AD to prevent the throttle lever movement from advancing more than 6 degrees of forward travel, which could result in the aircraft reaching near take-off thrust and high velocities without primary flight controls (aileron, elevator, and rudder) and cause a failure to rotate during take-off and high speed runway overrun.

### **Comments**

We gave the public the opportunity to participate in developing this AD. We have considered the comment received. The commenter, the National Transportation Safety Board (NTSB), supported the NPRM.

### **New Service Information**

Since we issued the NPRM, we received the following customer bulletins that clarify the modification instructions, and we have revised paragraph (g) of this AD to refer to these bulletins:

- Gulfstream IV Customer Bulletin Number 236B, dated February 3, 2017;
- Gulfstream G300 Customer Bulletin Number 236B, dated February 3, 2017; and
- Gulfstream G400 Customer Bulletin Number 236B, dated February 3, 2017.

We have also added the following customer bulletins to paragraph (k) of this AD to provide credit for the actions required by paragraph (g) of this AD if those actions were performed before the effective date of this AD:

- Gulfstream IV Customer Bulletin Number 236A, dated August 8, 2016;
- Gulfstream G300 Customer Bulletin Number 236A, dated August 8, 2016; and
- Gulfstream G400 Customer Bulletin Number 236A, dated August 8, 2016.

## Conclusion

We reviewed the relevant data, considered the comment received, and determined that air safety and the public interest require adopting this AD with the changes described previously and minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

We also determined that these changes will not increase the economic burden on any operator or increase the scope of this AD.

## Related Service Information Under 1 CFR Part 51

We reviewed the following customer bulletins:

- Gulfstream IV Customer Bulletin Number 236B, dated February 3, 2017;
- Gulfstream G300 Customer Bulletin Number 236B, dated February 3, 2017; and
- Gulfstream G400 Customer Bulletin Number 236B, dated February 3, 2017.

The service information describes procedures for modifying the gust lock system by doing a retrofit of the gust lock throttle interlock. These documents are distinct since they apply to different airplane models in different configurations.

We also reviewed the following temporary revisions (TRs):

- Gulfstream IV Maintenance Manual TR 27-3, dated April 29, 2016;
- Gulfstream IV MSG-3 Maintenance Manual TR 27-3, dated April 29, 2016;
- Gulfstream G300 Maintenance Manual TR 27-3, dated April 29, 2016; and
- Gulfstream G400 Maintenance Manual TR 27-3, dated April 29, 2016.

The service information describes procedures for a functional test of the throttle lever gust lock protection. These documents are distinct since they apply to different airplane models in different configurations.

We also reviewed the following temporary revisions:

- Gulfstream IV Maintenance Manual TR 5-7, dated April 29, 2016;
- Gulfstream IV MSG-3 Maintenance Manual TR 5-6, dated April 29, 2016;
- Gulfstream G300 Maintenance Manual TR 5-3, dated April 29, 2016; and
- Gulfstream G400 Maintenance Manual TR 5-3, dated April 29, 2016.

The service information describes an airworthiness limitation (certification maintenance requirement) task to do functional tests of the throttle lever gust lock protection. These documents are distinct since they apply to different airplane models in different configurations.

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.

## Costs of Compliance

We estimate that this AD affects 425 airplanes of U.S. registry. We estimate the following costs to comply with this AD:

### Estimated Costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Modification and Maintenance or Inspection Program Revision	109 work-hours × \$85 per hour = \$9,265	\$9,080	\$18,345	\$7,796,625

According to the manufacturer, some of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected individuals. We do not control warranty coverage for affected individuals. As a result, we have included all costs in our cost estimate.

### **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.

We are 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) Is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) 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.

### **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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**2017-13-11 Gulfstream Aerospace Corporation:** Amendment 39-18941; Docket No. FAA-2016-9437; Directorate Identifier 2016-NM-131-AD.

**(a) Effective Date**

This AD is effective August 3, 2017.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to all Gulfstream Aerospace Corporation Model G-IV 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 report indicating that the G-IV gust lock system allows more throttle travel than was intended and could allow the throttle to be advanced to reach take-off thrust. The intended function of the gust lock system is to restrict throttle lever movement to a maximum of 6 degrees of forward travel, which provides an unmistakable warning to the pilot that the gust lock system is still engaged, prohibiting the use of the primary flight control surfaces. We are issuing this AD to prevent the throttle lever movement from advancing more than 6 degrees of forward travel, which could result in the aircraft reaching near take-off thrust and high velocities without primary flight controls (aileron, elevator, and rudder) and cause a failure to rotate during take-off and high speed runway overrun.

**(f) Compliance**

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

**(g) Modification**

Within 36 months after the effective date of this AD, modify the gust lock system by doing a retrofit of the gust lock throttle interlock, in accordance with the Accomplishment Instructions of the applicable service information specified in paragraph (g)(1), (g)(2), or (g)(3) of this AD.

- (1) Gulfstream IV Customer Bulletin Number 236B, dated February 3, 2017.
- (2) Gulfstream G300 Customer Bulletin Number 236B, dated February 3, 2017.
- (3) Gulfstream G400 Customer Bulletin Number 236B, dated February 3, 2017.

## **(h) Maintenance or Inspection Program Revision To Include a Functional Test**

Within 90 days after the effective date of this AD, revise the maintenance or inspection program, as applicable, to incorporate a functional test of the throttle lever gust lock protection specified in the applicable temporary revision (TR) identified in paragraphs (h)(1) through (h)(4) of this AD. The initial compliance time for the functional test is within the applicable time specified in paragraphs (h)(1) through (h)(4) of this AD, or within 90 days after the effective date of this AD, whichever occurs later. The functional test must be done in accordance with the applicable service information specified in paragraphs (i)(1) through (i)(4) of this AD.

(1) For Gulfstream IV Maintenance Manual TR 5-7, dated April 29, 2016: Within 12 months or 4,500 flight hours, whichever occurs first after accomplishing the modification required by paragraph (g) of this AD.

(2) For Gulfstream IV MSG-3 Maintenance Manual TR 5-6, dated April 29, 2016: Before the next 1C maintenance check or within 4,500 flight hours, whichever occurs first after accomplishing the modification required by paragraph (g) of this AD.

(3) For Gulfstream G300 Maintenance Manual TR 5-3, dated April 29, 2016: Before the next 1C maintenance check or within 4,500 flight hours, whichever occurs first after accomplishing the modification required by paragraph (g) of this AD.

(4) For Gulfstream G400 Maintenance Manual TR 5-3, dated April 29, 2016: Before the next 1C maintenance check or within 4,500 flight hours, whichever occurs first after accomplishing the modification required by paragraph (g) of this AD.

## **(i) Service Information for the Functional Test of the Throttle Lever Gust Lock Protection**

The functional test of the throttle lever gust lock protection specified in paragraph (h) of this AD must be done in accordance with the applicable service information specified in paragraphs (i)(1) through (i)(4) of this AD.

(1) Gulfstream IV Maintenance Manual TR 27-3, dated April 29, 2016.

(2) Gulfstream IV MSG-3 Maintenance Manual TR 27-3, dated April 29, 2016.

(3) Gulfstream G300 Maintenance Manual TR 27-3, dated April 29, 2016.

(4) Gulfstream G400 Maintenance Manual TR 27-3, dated April 29, 2016.

## **(j) No Alternative Actions and Intervals**

After the maintenance or inspection program has been revised as required by paragraph (h) 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 (m) of this AD.

## **(k) Credit for Previous Actions**

This paragraph provides credit for the actions required by paragraph (g) of this AD, if those actions were performed before the effective date of this AD using the applicable service information identified in paragraph (k)(1), (k)(2), or (k)(3) of this AD.

(1) Gulfstream IV Customer Bulletin Number 236, dated June 1, 2016; or 236A, dated August 8, 2016.

(2) Gulfstream G300 Customer Bulletin Number 236, dated June 1, 2016; or 236A, dated August 8, 2016.

(3) Gulfstream G400 Customer Bulletin Number 236, dated June 1, 2016; or 236A, dated August 8, 2016.

## **(l) Exception for Reporting and Return of Parts**

Although the service information identified in paragraph (g) of this AD specifies to submit certain information to the manufacturer and to return parts to the manufacturer, this AD does not include those requirements.

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

(1) The Manager, Atlanta Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. 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 ACO, send it to the attention of the person identified in paragraph (n)(1) 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.

(3) For service information that contains steps that are labeled as Required for Compliance (RC), the provisions of paragraphs (m)(3)(i) and (m)(3)(ii) of this AD apply.

(i) The steps labeled as RC, including substeps under an RC step and any figures identified in an RC step, must be done to comply with the AD. If a step or substep is labeled "RC Exempt," then the RC requirement is removed from that step or substep. An AMOC is required for any deviations to RC steps, including substeps and identified figures.

(ii) Steps not labeled as RC may be deviated from using accepted methods in accordance with the operator's maintenance or inspection program without obtaining approval of an AMOC, provided the RC steps, including substeps and identified figures, can still be done as specified, and the airplane can be put back in an airworthy condition.

## **(n) Related Information**

(1) For more information about this AD, contact Gideon Jose, Aerospace Engineer, Systems and Equipment Branch, ACE-119A, FAA, Atlanta ACO, 1701 Columbia Avenue, College Park, GA 30337; phone: 404-474-5569; fax: 404-474-5606; email: gideon.jose@faa.gov.

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

## **(o) 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 G300 Customer Bulletin Number 236B, dated February 3, 2017.

(ii) Gulfstream G300 Maintenance Manual Temporary Revision 27-3, dated April 29, 2016.

(iii) Gulfstream G300 Maintenance Manual Temporary Revision 5-3, dated April 29, 2016.

(iv) Gulfstream G400 Customer Bulletin Number 236B, dated February 3, 2017.

(v) Gulfstream G400 Maintenance Manual Temporary Revision 27-3, dated April 29, 2016.

(vi) Gulfstream G400 Maintenance Manual Temporary Revision 5-3, dated April 29, 2016.

(vii) Gulfstream IV Customer Bulletin Number 236B, dated February 3, 2017.

(viii) Gulfstream IV Maintenance Manual Temporary Revision 27-3, dated April 29, 2016.

(ix) Gulfstream IV Maintenance Manual Temporary Revision 5-7, dated April 29, 2016.

(x) Gulfstream IV MSG-3 Maintenance Manual Temporary Revision 27-3, dated April 29, 2016.

(xi) Gulfstream IV MSG-3 Maintenance Manual Temporary Revision 5-6, dated April 29, 2016.

(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](mailto:pubs@gulfstream.com); Internet [http://www.gulfstream.com/product\\_support/technical\\_pubs/pubs/index.htm](http://www.gulfstream.com/product_support/technical_pubs/pubs/index.htm).

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

(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, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Renton, Washington, on June 16, 2017.

Michael Kaszycki,  
Acting Manager, Transport Airplane Directorate,  
Aircraft Certification Service.