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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2021-0881; Project Identifier AD-2020-01062-T; Amendment 39-21912; AD 2022-02-15]**

**RIN 2120-AA64**

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

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

**ACTION:** Final rule.

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**SUMMARY:** The FAA is superseding Airworthiness Directive (AD) 2020-12-06 for all Gulfstream Aerospace Corporation (Gulfstream) Model G-IV airplanes. AD 2020-12-06 required replacing the nose wheel steering servo valve manifold, incorporating revised operating procedures into the airplane flight manual (AFM), doing a records inspection for any incidents of un-commanded nose wheel steering turns, and reporting the results to the FAA. Since the FAA issued AD 2020-12-16, the FAA determined that a typographical error was made in citing one of the AFM documents. This AD retains the actions of AD 2020-12-06 and corrects the citation to the AFM. The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective February 24, 2022.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of July 20, 2020 (85 FR 36143, June 15, 2020).

**ADDRESSES:** For service information identified in this final rule, contact Gulfstream Aerospace Corporation, P.O. Box 2206, Savannah, GA 31402; phone: (800) 810-4853; email: pubs@gulfstream.com; website: <https://www.gulfstream.com/en/customer-support/>. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, FAA, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (817) 222-5110. It is also available at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0881.

#### **Examining the AD Docket**

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0881; 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:** Samuel Belete, Aviation Safety Engineer, Systems and Equipment Section, FAA, Atlanta ACO Branch, 1701 Columbia Avenue, College Park, GA 30337; phone: (404) 474-5580; fax: (404) 474-5606; email: samuel.belete@faa.gov.

## **SUPPLEMENTARY INFORMATION:**

### **Background**

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2020-12-06, Amendment 39-21141 (85 FR 36143, June 15, 2020) (AD 2020-12-06). AD 2020-12-06 applied to all Gulfstream Model G-IV airplanes and required replacing the nose wheel steering servo valve manifold, incorporating revised operating procedures into the AFM, doing a records inspection for any incidents of un-commanded nose wheel steering turns, and reporting the results to the FAA. The FAA issued AD 2020-12-06 to prevent moisture from entering the nose steering wheel servo valve, which could freeze and cause an un-commanded nose wheel steering position during touchdown.

The NPRM published in the Federal Register on October 26, 2021 (86 FR 59062). The NPRM was prompted by a determination that a typographical error was made in citing the title of the AFM required by paragraph (g)(3) of AD 2020-12-06. The paragraph incorrectly references the document number as “FAC-AC-G400-OPS-0001” instead of “GAC-AC-G400-OPS-0001.” In the NPRM, the FAA proposed to retain the actions of AD 2020-12-06 and to correct the citation to the AFM. The FAA is issuing this AD to address the unsafe condition on these products.

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

#### **Comments**

The FAA received no comments on the NPRM or on the determination of the costs.

#### **Conclusion**

The FAA determined that air safety requires adoption of the AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these products. This AD is adopted as proposed in the NPRM.

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

This AD requires Gulfstream IV Customer Bulletin Number 244, dated March 12, 2018; Gulfstream G300 Customer Bulletin 244, dated March 12, 2018; Gulfstream G400 Customer Bulletin 244, dated March 12, 2018; Gulfstream IV Airplane Flight Manual, Gulfstream Aerospace Document Number GAC-AC-GIV-OPS-0001, Revision 52, dated October 30, 2017; Gulfstream G300 Airplane Flight Manual, Gulfstream Aerospace Document Number GAC-AC-G300-OPS-0001, Revision 20, dated October 30, 2017; and Gulfstream G400 Airplane Flight Manual, Gulfstream Aerospace Document Number GAC-AC-G400-OPS-0001, Revision 20, dated October 30, 2017; which the Director of the Federal Register approved for incorporation by reference as of July 20, 2020 (85 FR 36143, June 15, 2020). 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.

**Differences Between This AD and the Service Information**

The Gulfstream customer bulletins require reporting compliance with the bulletins to Gulfstream. This AD does not contain that requirement; however, this AD requires reporting any known occurrences of un-commanded nose wheel steering turns to the FAA.

The Gulfstream customer bulletins include a compliance time of 48 months beginning on March 12, 2018. The compliance time for this AD is 36 months after July 20, 2020 (the effective date of AD 2020-12-06).

**Costs of Compliance**

The FAA estimates that this AD affects 425 airplanes of U.S. registry.

The FAA estimates the following costs to comply with this AD:

**Estimated Costs**

<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per airplane</b>	<b>Cost on U.S. operators</b>
Incorporate AFM revision	1 work-hour × \$85 per hour = \$85	\$0	\$85	\$36,125
Replace nose wheel steering servo valve	7 work-hours × \$85 per hour = \$595	\$63,624	\$64,219	\$27,293,075
Review records	1 work-hour × \$85 per hour = \$85	\$0	\$85	\$36,125
Report results	1 work hour × \$85 per hour = \$85	\$0	\$85	\$36,125

The FAA has included all known costs in its cost estimate. According to the manufacturer, however, some of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected operators.

**Paperwork Reduction Act**

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a currently valid OMB Control Number. The OMB Control Number for this information collection is 2120-0056. Public reporting for this collection of information is estimated to be approximately 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. All responses to this collection of information are mandatory. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, Federal Aviation Administration, 10101 Hillwood Parkway, Fort Worth, TX 76177-1524.

## **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**

The FAA has determined that 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:
  - a. Removing Airworthiness Directive 2020-12-06, Amendment 39-21141 (85 FR 36143, June 15, 2020); and
  - b. Adding the following new airworthiness directive:



**2022-02-15 Gulfstream Aerospace Corporation:** Amendment 39-21912; Docket No. FAA-2021-0881; Project Identifier AD-2020-01062-T.

**(a) Effective Date**

This airworthiness directive (AD) is effective February 24, 2022.

**(b) Affected ADs**

This AD replaces AD 2020-12-06, Amendment 39-21141 (85 FR 36143, June 15, 2020) (AD 2020-12-06).

**(c) Applicability**

This AD applies to all Gulfstream Aerospace Corporation Model G-IV airplanes, certificated in any category.

**(d) Subject**

Joint Aircraft System Component (JASC) Code 3200, Landing Gear System.

**(e) Unsafe Condition**

This AD was prompted by reports of un-commanded nose wheel steering turns. The FAA is issuing this AD to prevent moisture from entering the nose steering wheel servo valve, which could freeze and cause an un-commanded nose wheel steering position during touchdown. The unsafe condition, if not addressed, could result in a lateral runway departure.

**(f) Compliance**

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

**(g) Retained Airplane Flight Manual Revisions for Certain Airplanes**

This paragraph restates the requirements of paragraphs (g)(1) and (2) of AD 2020-12-06. Within 30 days after July 20, 2020 (the effective date of AD 2020-12-06), revise your airplane flight manual (AFM) by incorporating the revision applicable to your airplane configuration as listed in paragraphs (g)(1) and (2) of this AD:

(1) Gulfstream IV Airplane Flight Manual, Gulfstream Aerospace Document Number GAC-AC-GIV-OPS-0001, Revision 52, dated October 30, 2017; or

(2) Gulfstream G300 Airplane Flight Manual, Gulfstream Aerospace Document Number GAC-AC-G300-OPS-0001, Revision 20, dated October 30, 2017.

#### **(h) Correction to AFM Revision for Certain Airplanes**

Within 30 days after the effective date of this AD, revise your AFM by incorporating Gulfstream G400 Airplane Flight Manual, Gulfstream Aerospace Document Number GAC-AC-G400-OPS-0001, Revision 20, dated October 30, 2017, if applicable to your airplane configuration.

#### **(i) Retained Replacement of Nose Wheel Steering Servo Valve Manifold With No Changes**

This paragraph restates the requirements of paragraph (h) of AD 2020-12-06 with no changes. Within 36 months after July 20, 2020 (the effective date of AD 2020-12-06), replace the nose wheel steering servo valve manifold with nose wheel steering servo valve manifold part number 5100-11 or 5105-5 in accordance with the Accomplishment Instructions of the customer bulletin that applies to your airplane configuration as listed in paragraphs (i)(1) through (3) of this AD, except you are not required to comply with step H:

- (1) Gulfstream IV Customer Bulletin Number 244, dated March 12, 2018;
- (2) Gulfstream G300 Customer Bulletin 244, dated March 12, 2018; or
- (3) Gulfstream G400 Customer Bulletin 244, dated March 12, 2018.

#### **(j) Retained Records Inspection and Report of Results With No Changes**

This paragraph restates the requirements of paragraph (i) of AD 2020-12-06 with no changes.

(1) Between 12 months and 24 months after the replacement of the nose wheel steering valve manifold assembly required in paragraph (i) of this AD, inspect all aircraft records for entries of an un-commanded nose wheel steering turn.

(2) Within 10 days after the records inspection required in paragraph (j)(1) of this AD, report the results of the inspection, regardless of whether the inspection found any entries, to the FAA by either email: 9-ASO-ATLCOS-Reporting@faa.gov; or by mail: Attn: Continued Operational Safety, Atlanta ACO Branch, FAA, 1701 Columbia Avenue, College Park, GA 30337. The report must include as much of the information listed in paragraphs (j)(2)(i) through (vii) of this AD as is known about the event:

- (i) Date of records inspection;
- (ii) Date and time of all un-commanded occurrences (if any);
- (iii) Airplane serial number;
- (iv) Weather and runway conditions at the time of each occurrence;
- (v) Copy of the pilot's report of the occurrence (if available);
- (vi) Maintenance entry of the root cause of the un-commanded deflection (if available); and
- (vii) Any other information pertinent to the occurrence.

#### **(k) 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 (l) 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.

## **(l) Related Information**

For more information about this AD, contact Samuel Belete, Aviation Safety Engineer, Systems and Equipment Section, FAA, Atlanta ACO Branch, 1701 Columbia Avenue, College Park, GA 30337; phone: (404) 474-5580; fax: (404) 474-5606; email: samuel.belete@faa.gov.

## **(m) 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.

(3) The following service information was approved for IBR on July 20, 2020 (85 FR 36143, June 15, 2020).

(i) Gulfstream IV Customer Bulletin Number 244, dated March 12, 2018.

(ii) Gulfstream G300 Customer Bulletin 244, dated March 12, 2018.

(iii) Gulfstream G400 Customer Bulletin 244, dated March 12, 2018.

(iv) Gulfstream IV Airplane Flight Manual, Gulfstream Aerospace Document Number GAC-AC-GIV-OPS-0001, Revision 52, dated October 30, 2017.

(v) Gulfstream G300 Airplane Flight Manual, Gulfstream Aerospace Document Number GAC-AC-G300-OPS-0001, Revision 20, dated October 30, 2017.

(vi) Gulfstream G400 Airplane Flight Manual, Gulfstream Aerospace Document Number GAC-AC-G400-OPS-0001, Revision 20, dated October 30, 2017.

(4) For service information identified in this AD, contact Gulfstream Aerospace Corporation, P.O. Box 2206, Savannah, GA 31402; phone: (800) 810-4853; email: pubs@gulfstream.com; website: <https://www.gulfstream.com/en/customer-support/>.

(5) You may view this service information at FAA, Airworthiness Products Section, Operational Safety Branch, FAA, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (817) 222-5110.

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

Issued on January 13, 2022.

Lance T. Gant,

Director, Compliance & Airworthiness Division, Aircraft Certification Service.

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