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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2016-9070; Directorate Identifier 2016-NM-118-AD; Amendment 39-18642; AD 2016-18-11]**

**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:** We are adopting a new airworthiness directive (AD) for all Gulfstream Aerospace Corporation Model G-1159, G-1159A, G-1159B, G-IV, and GV airplanes; and certain Model GIV-X and GV-SP airplanes. This AD requires a one-time replacement of the actuator end cap fitting of the main landing gear (MLG) door, and revision of the maintenance or inspection program to establish the life limit of the end cap fitting. This AD was prompted by a report of the failure of the right MLG to extend due to fatigue cracking of the end cap fitting. We are issuing this AD to prevent such cracking, which could result in depletion of the combined (left) and utility hydraulic system fluid and the nitrogen emergency blowdown system, failure of the combined (left) hydraulic system (all phases) to provide adequate hydraulic pressure, and failure of the MLG to extend when commanded.

**DATES:** This AD is effective September 23, 2016.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of September 23, 2016.

We must receive comments on this AD by October 24, 2016.

**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 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-2016-9070.

### **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-2016-9070; 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 street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**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](mailto:Gideon.Jose@faa.gov).

### **SUPPLEMENTARY INFORMATION:**

#### **Discussion**

We have received a report of an incident involving a Model G-1159A (G-III) airplane. During approach, the right MLG failed to extend during normal or alternative extension procedures. We have determined that the MLG door actuator end cap fitting is subject to fatigue cracking, allowing for the depletion of the combined (left) and utility hydraulic system fluid and the nitrogen emergency blowdown system. This condition, if not corrected, could result in failure of the combined (left) hydraulic system (all phrases) to provide adequate hydraulic pressure and failure of the MLG to extend when commanded. We are issuing this AD to correct the unsafe condition on these products.

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

We reviewed the following temporary revisions (TRs), which provide procedures for replacing MLG door actuator end cap fittings, and establish life limits for the end cap fittings.

- Gulfstream G300 Maintenance Manual, TR 32-2, dated April 29, 2016.
- Gulfstream G300 Maintenance Manual, TR 5-3, dated April 29, 2016.
- Gulfstream G350 Maintenance Manual TR 32-1, dated April 22, 2016.
- Gulfstream G350 Maintenance Manual TR 5-2, dated April 22, 2016.
- Gulfstream G400 Maintenance Manual TR 32-2, dated April 29, 2016.
- Gulfstream G400 Maintenance Manual TR 5-3, dated April 29, 2016.
- Gulfstream G450 Maintenance Manual TR 32-1, dated April 22, 2016.
- Gulfstream G450 Maintenance Manual TR 5-2, dated April 22, 2016.
- Gulfstream G500 Maintenance Manual TR 32-1, dated May 20, 2016.
- Gulfstream G500 Maintenance Manual TR 5-3, dated May 20, 2016.
- Gulfstream G550 Maintenance Manual TR 32-1, dated May 20, 2016.
- Gulfstream G550 Maintenance Manual TR 5-3, dated May 20, 2016.

- Gulfstream II Maintenance Manual TR 32-1, dated April 15, 2016.
- Gulfstream II Maintenance Manual TR 5-3, dated April 15, 2016.
- Gulfstream IIB Maintenance Manual TR 32-3, dated April 15, 2016.
- Gulfstream IIB Maintenance Manual TR 5-3, dated April 15, 2016.
- Gulfstream III Maintenance Manual TR 32-1, dated April 15, 2016.
- Gulfstream III Maintenance Manual TR 5-2, dated April 15, 2016.
- Gulfstream IV Maintenance Manual TR 32-2, dated April 29, 2016.
- Gulfstream IV Maintenance Manual TR 5-7, dated April 29, 2016.
- Gulfstream V Maintenance Manual TR 32-2, dated May 20, 2016.
- Gulfstream V Maintenance Manual TR 5-3, dated May 20, 2016.

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**

We are issuing this AD because we 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 repetitively replacing the MLG door actuator end cap fittings and revising the maintenance or inspection program, as applicable, to establish life limits for MLG door actuator end cap fittings.

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

An unsafe condition exists that requires the immediate adoption of this AD. The FAA has found that the risk to the flying public justifies waiving notice and comment prior to adoption of this rule because fatigue cracking of the MLG door actuator end cap fitting could result in depletion of the combined (left) and utility hydraulic system fluid and the nitrogen emergency blowdown system, failure of the combined (left) hydraulic system (all phrases) to provide adequate hydraulic pressure, and failure of the MLG to extend when commanded. Therefore, we find that notice and opportunity for prior public comment are impracticable and 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, we invite you to send any written data, views, or arguments about this AD. Send your comments to an address listed under the ADDRESSES section. Include the docket number FAA-2016-9070 and Directorate Identifier 2016-NM-118-AD at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this AD. We will consider all comments received by the closing date and may amend this AD because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this AD.

## Costs of Compliance

We estimate that this AD affects 1,409 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 (\$)
Replacement	37 work-hours × \$85 per hour = \$3,145	\$698	\$3,843	\$5,414,787
Maintenance/inspection program revision	1 work-hour × \$85 per hour = \$85	0	85	119,765

## 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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**2016-18-11 Gulfstream Aerospace Corporation:** Amendment 39-18642; Docket No. FAA-2016-9070; Directorate Identifier 2016-NM-118-AD.

**(a) Effective Date**

This AD is effective September 23, 2016.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to the Gulfstream Aerospace Corporation airplanes, certificated in any category, identified in paragraphs (c)(1) through (c)(7) of this AD.

- (1) All Model G-1159 airplanes.
- (2) All Model G-1159A airplanes.
- (3) All Model G-1159B airplanes.
- (4) All Model G-IV airplanes.
- (5) All Model GV airplanes.
- (6) Model GIV-X airplanes, serial numbers 4001 through 4350 inclusive.
- (7) Model GV-SP airplanes, serial numbers 5001 through 5542 inclusive.

**(d) Subject**

Air Transport Association (ATA) of America Code 32, Landing gear.

**(e) Unsafe Condition**

This AD was prompted by a report that the right main landing gear (MLG) failed to extend due to fatigue cracking of the end cap fitting. We are issuing this AD to prevent such cracking, which could result in depletion of the combined (left) and utility hydraulic system fluid and the nitrogen emergency blowdown system, failure of the combined (left) hydraulic system (all phrases) to provide adequate hydraulic pressure, and failure of the MLG to extend when commanded.

**(f) Compliance**

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

**(g) MLG Actuator End Cap Fitting Replacement**

Before the accumulation of 9,500 total landings on the MLG actuator end cap fitting, or within 90 days after the effective date of this AD, whichever occurs later: Replace the end cap fitting, in accordance with the applicable temporary revision (TR) identified in paragraphs (g)(1) through

(g)(11) of this AD. For airplanes on which the number of total accumulated landings since new cannot be determined, do the replacement within 90 days after the effective date of this AD.

- (1) Gulfstream IIB Maintenance Manual TR 32-3, dated April 15, 2016.
- (2) Gulfstream IV Maintenance Manual TR 32-2, dated April 29, 2016.
- (3) Gulfstream G300 Maintenance Manual TR 32-2, dated April 29, 2016.
- (4) Gulfstream G400 Maintenance Manual TR 32-2, dated April 29, 2016.
- (5) Gulfstream G350 Maintenance Manual TR 32-1, dated April 22, 2016.
- (6) Gulfstream G450 Maintenance Manual TR 32-1, dated April 22, 2016.
- (7) Gulfstream G500 Maintenance Manual TR 32-1, dated May 20, 2016.
- (8) Gulfstream G550 Maintenance Manual TR 32-1, dated May 20, 2016.
- (9) Gulfstream V Maintenance Manual TR 32-2, dated May 20, 2016.
- (10) Gulfstream II Maintenance Manual TR 32-1, dated April 15, 2016.
- (11) Gulfstream III Maintenance Manual TR 32-1, dated April 15, 2016.

**(h) Revision of Maintenance/Inspection Program**

Within 90 days after the effective date of this AD, revise the maintenance or inspection program, as applicable, to incorporate the information for the part number 1159HM20178 MLG actuator end cap fitting in the applicable TR identified in paragraphs (h)(1) through (h)(11) of this AD. The initial compliance time to replace the MLG actuator end cap fitting, as specified in the TR, is before the accumulation of 9,500 total landings on the end cap fitting, or within 90 days after the effective date of this AD, whichever occurs later.

- (1) Gulfstream IIB Maintenance Manual TR 5-3, dated April 15, 2016.
- (2) Gulfstream IV Maintenance Manual TR 5-7, dated April 29, 2016.
- (3) Gulfstream G300 Maintenance Manual TR 5-3, dated April 29, 2016.
- (4) Gulfstream G400 Maintenance Manual TR 5-3, dated April 29, 2016.
- (5) Gulfstream G350 Maintenance Manual TR 5-2, dated April 22, 2016.
- (6) Gulfstream G450 Maintenance Manual TR 5-2, dated April 22, 2016.
- (7) Gulfstream G500 Maintenance Manual TR 5-3, dated May 20, 2016.
- (8) Gulfstream G550 Maintenance Manual TR 5-3, dated May 20, 2016.
- (9) Gulfstream V Maintenance Manual TR 5-3, dated May 20, 2016.
- (10) Gulfstream II Maintenance Manual TR 5-3, dated April 15, 2016.
- (11) Gulfstream III Maintenance Manual TR 5-2, dated April 15, 2016.

**(i) 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 (k) of this AD.

**(j) Special Flight Permit**

A special flight permit may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane, for one flight only, to a location where the MLG actuator end cap fitting can be replaced, as required by paragraph (g) of this AD.

**(k) 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 (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 Gideon Jose, Aerospace Engineer, Systems and Equipment Branch, ACE-119A, FAA, Atlanta Aircraft Certification Office (ACO), 1701 Columbia Avenue, College Park, Georgia 30337; phone: 404-474-5569; fax: 404-474-5606; email: Gideon.Jose@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.

- (i) Gulfstream G300 Maintenance Manual Temporary Revision (TR) 32-2, dated April 29, 2016.
- (ii) Gulfstream G300 Maintenance Manual TR 5-3, dated April 29, 2016.
- (iii) Gulfstream G350 Maintenance Manual TR 32-1, dated April 22, 2016.
- (iv) Gulfstream G350 Maintenance Manual TR 5-2, dated April 22, 2016.
- (v) Gulfstream G400 Maintenance Manual TR 32-2, dated April 29, 2016.
- (vi) Gulfstream G400 Maintenance Manual TR 5-3, dated April 29, 2016.
- (vii) Gulfstream G450 Maintenance Manual TR 32-1, dated April 22, 2016.
- (viii) Gulfstream G450 Maintenance Manual TR 5-2, dated April 22, 2016.
- (ix) Gulfstream G500 Maintenance Manual TR 32-1, dated May 20, 2016.
- (x) Gulfstream G500 Maintenance Manual TR 5-3, dated May 20, 2016.
- (xi) Gulfstream G550 Maintenance Manual TR 32-1, dated May 20, 2016.
- (xii) Gulfstream G550 Maintenance Manual TR 5-3, dated May 20, 2016.
- (xiii) Gulfstream II Maintenance Manual TR 32-1, dated April 15, 2016.
- (xiv) Gulfstream II Maintenance Manual TR 5-3, dated April 15, 2016.
- (xv) Gulfstream IIB Maintenance Manual TR 32-3, dated April 15, 2016.
- (xvi) Gulfstream IIB Maintenance Manual TR 5-3, dated April 15, 2016.
- (xvii) Gulfstream III Maintenance Manual TR 32-1, dated April 15, 2016.
- (xviii) Gulfstream III Maintenance Manual TR 5-2, dated April 15, 2016.
- (xix) Gulfstream IV Maintenance Manual TR 32-2, dated April 29, 2016.
- (xx) Gulfstream IV Maintenance Manual TR 5-7, dated April 29, 2016.
- (xxi) Gulfstream V Maintenance Manual TR 32-2, dated May 20, 2016.
- (xxii) Gulfstream V Maintenance Manual TR 5-3, dated May 20, 2016.

(3) For Gulfstream 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 [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 August 24, 2016.  
John P. Piccola, Jr.,  
Acting Manager, Transport Airplane Directorate,  
Aircraft Certification Service.