

[Federal Register Volume 76, Number 229 (Tuesday, November 29, 2011)]  
[Rules and Regulations]  
[Pages 73483-73486]  
From the Federal Register Online via the Government Printing Office [www.gpo.gov]  
[FR Doc No: 2011-29806]

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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2011-0572; Directorate Identifier 2011-NM-009-AD; Amendment 39-16866; AD 2011-24-02]**

**RIN 2120-AA64**

### **Airworthiness Directives; Gulfstream Aerospace Corporation Model GV and GV-SP Airplanes**

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

**ACTION:** Final rule.

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**SUMMARY:** We are adopting a new airworthiness directive (AD) for certain Gulfstream Aerospace Corporation Model GV and GV-SP airplanes. This AD was prompted by notification from the airplane manufacturer that the third fire extinguisher bottle is mounted in a small-fragment impact zone. This AD requires inspecting to determine whether a third Halon fire extinguisher bottle is installed in the auxiliary power unit (APU) fragment impact zone, revising the limitations section of the airplane flight manual to add restrictions for APU usage for certain airplanes having a third fire extinguisher bottle, and removing the third fire extinguisher bottle from certain airplanes. We are issuing this AD to prevent penetration of the bottle by fragments released due to a failure of the APU rotor system. The bottle could rupture and cause substantial damage to primary airframe structure and primary flight controls.

**DATES:** This AD is effective January 3, 2012.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the AD as of January 3, 2012.

**ADDRESSES:** For service information identified in this AD, contact Gulfstream Aerospace Corporation, Technical Publications Dept., P.O. Box 2206, Savannah, Georgia 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 review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, Washington. For information on the availability of this material at the FAA, call (425) 227-1221.

## **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov>; 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 Document 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:** Sanford Proveaux, Aerospace Engineer, Continued Operational Safety and Certificate Management Branch, ACE-102A, FAA, Atlanta Aircraft Certification Office (ACO) 1701 Columbia Avenue, College Park, Georgia 30337; phone: (404) 474-5566; fax: (404) 474-5606; email: [sanford.proveaux@faa.gov](mailto:sanford.proveaux@faa.gov).

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to the specified products. That NPRM was published in the Federal Register on June 22, 2011 (76 FR 36392). That NPRM proposed to require inspecting to determine whether a third Halon fire extinguisher bottle is installed in the auxiliary power unit (APU) fragment impact zone, revising the limitations section of the airplane flight manual to add restrictions for APU usage for certain airplanes having a third fire extinguisher bottle, and removing the third fire extinguisher bottle from certain airplanes.

### **Comments**

We gave the public the opportunity to participate in developing this AD. The following presents the comments received on the proposal and the FAA's response to each comment.

### **Request To Include an Optional Terminating Action**

Gulfstream Aerospace Corporation (Gulfstream) requested that we revise the NPRM (76 FR 36392, June 22, 2011) to include an option for terminating action by incorporation of the amended supplemental type certificate (STC) ST01822AT-D, dated July 31, 2011. Gulfstream explained that the amended STC relocates the third halon fire extinguisher, and that Gulfstream could provide details of the amended STC as required to support the wording in the final rule. Gulfstream expressed that there is no need for a compliance time associated with their proposed terminating action since the interim actions "(APU operating limitation and AFM [airplane flight manual] revision)" will be in place as required by the NPRM.

We disagree with the request to revise the final rule to include an option for terminating action by incorporating the amended STC ST01822AT-D, dated July 31, 2011. The Gulfstream documents required (customer service bulletins and aircraft change instructions) for this action are not yet available. However, under the provisions of paragraph (l) of this final rule, we will consider requests for approval of an option for a terminating action as an alternative method of compliance if sufficient data are submitted to substantiate that the new action would provide an acceptable level of safety. We have not changed the AD in this regard.

## Request for Clarification of Cost Analysis

Gulfstream also indicated that the cost analysis for the inspection action is based on 1,000 airplanes whereas the AFM revision action is based on 70 airplanes, and that the bottle removal action is based on about 30 airplanes.

We infer that Gulfstream is requesting clarification on why 1,000 airplanes are inspected, but the on-condition action only applies to certain airplanes. All airplanes must be inspected to determine if they have the third fire extinguisher bottle and to determine if it is a spare. Gulfstream's indication that the AFM revision action is based on 70 airplanes, and that the bottle removal action is based on about 30 airplanes, is only an estimate. We have not changed the AD in this regard.

## Conclusion

We reviewed the relevant data, considered the comment received, and determined that air safety and the public interest require adopting the AD as proposed—except for minor editorial changes. We have determined that these minor changes:

Are consistent with the intent that was proposed in the NPRM (76 FR 36392, June 22, 2011) for correcting the unsafe condition; and

Do not add any additional burden upon the public than was already proposed in the NPRM.

## Interim Action

We consider this AD interim action. The manufacturer is currently developing a modification that will address the unsafe condition identified in this AD. Once this modification is developed, approved, and available, we might consider additional rulemaking.

## Costs of Compliance

We estimate that this AD affects 1,000 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
Inspection	1 work-hour X \$85 per hour = \$85	\$0	\$85	\$85,000

We estimate the following costs to do any necessary actions that would be required based on the results of the inspection.

### On-Condition Costs

Action	Labor cost	Parts cost	Cost per product
AFM revision	1 work-hour X \$85 per hour = \$85	\$0	\$85 (about 70 GV/GV-SP airplanes)
Bottle removal	1 work-hour X \$85 per hour = \$85	\$0	\$85 (about 30 GV-SP airplanes)

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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**2011-24-02 Gulfstream Aerospace Corporation:** Amendment 39-16866; Docket No. FAA-2011-0572; Directorate Identifier 2011-NM-009-AD.

**(a) Effective Date**

This AD is effective January 3, 2012.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to the Gulfstream Aerospace Corporation airplanes, certificated in any category, identified in paragraphs (c)(1) and (c)(2) of this AD.

- (1) Model GV airplanes having serial numbers (S/Ns) 501 and subsequent.
- (2) Model GV-SP airplanes having S/Ns 5001 through 5308 inclusive.

**(d) Subject**

Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 2621, Fire bottle, fixed.

**(e) Unsafe Condition**

This AD was prompted by notification from the airplane manufacturer that the third fire extinguisher bottle is mounted in a small-fragment impact zone. We are issuing this AD to prevent penetration of the bottle by fragments released due to a failure of the auxiliary power unit (APU) rotor system. The bottle could rupture and cause substantial damage to primary airframe structure and primary flight controls.

**(f) Compliance**

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

**(g) Inspection**

For all airplanes: Within 21 days after the effective date of this AD, or before removing the APU flight restrictions required by AD 2009-17-01, Amendment 39-15991 (74 FR 40061, August 11, 2009), whichever occurs first, inspect to determine whether a third Halon fire extinguisher bottle for engines is installed in the APU fragment impact zone (rotor fragment impact zone), in accordance with the Accomplishment Instructions of the applicable Gulfstream alert customer bulletin identified in table 1 of this AD.

**Table 1–Applicable Gulfstream Alert Customer Bulletins**

<b>For Model -</b>	<b>Use -</b>	<b>Which includes -</b>	<b>To the -</b>
GV airplanes	Gulfstream V Alert Customer Bulletin 30A, dated December 20, 2010	Gulfstream GV/GV-SP Airplane Flight Manual (AFM) Supplement CE51 628M001, Revision A, dated December 20, 2010	Gulfstream GV AFM
GV-SP (G500) airplanes	Gulfstream G500 Alert Customer Bulletin 10A, dated December 20, 2010	Gulfstream GV/GV-SP AFM Supplement CE51 628M001, Revision A, dated December 20, 2010	Gulfstream GV-SP AFM
GV-SP (G550) airplanes	Gulfstream G550 Alert Customer Bulletin 10A, dated December 20, 2010	Gulfstream GV/GV-SP AFM Supplement CE51 628M001, Revision A, dated December 20, 2010	Gulfstream GV-SP AFM

(1) If the third fire extinguisher bottle is not installed, no further work is required by this paragraph.

(2) For Model GV airplanes in which the third fire extinguisher bottle is installed as a dedicated APU fire bottle configuration, as defined in Gulfstream V Alert Customer Bulletin 30A, dated December 20, 2010 (as a functioning part of the aircraft fire suppression system): Before further flight, revise the Limitations section of the Gulfstream GV AFM to include the information in Gulfstream GV/GV-SP AFM Supplement CE51 628M001, Revision A, dated December 20, 2010 (which is included in Gulfstream V Alert Customer Bulletin 30A, dated December 20, 2010). This AFM supplement adds restrictions for APU usage. Operate the airplane thereafter according to the limitations in this AFM supplement.

**Note 1:** This may be done by inserting a copy of Gulfstream GV/GV-SP AFM Supplement CE51 628M001, Revision A, dated December 20, 2010, in the applicable AFM. When information in this AFM supplement has been included in general revisions of the applicable AFM, the general revisions may be inserted in the applicable AFM, provided the relevant information in the general revision is identical to that in Gulfstream GV/GV-SP AFM Supplement CE51 628M001, Revision A, dated December 20, 2010, and that AFM supplement may be removed.

(3) For Model GV and GV-SP airplanes in which the third fire extinguisher bottle is installed as a spare fire bottle configuration (not connected to the airplane's electrical or fire suppression system), as defined in the applicable Gulfstream alert customer bulletin identified in table 1 of this AD: Do the actions required by paragraph (g)(3)(i) or (g)(3)(ii) of this AD.

(i) Before further flight, remove the bottle, in accordance with the Accomplishment Instructions of the applicable Gulfstream alert customer bulletin identified in table 1 of this AD.

(ii) Before further flight, revise the limitations section of the applicable Gulfstream AFM specified in table 1 of this AD to include the information in Gulfstream GV/GV-SP AFM Supplement CE51 628M001, Revision A, dated December 20, 2010. This AFM supplement adds restrictions for APU usage. Operate the airplane thereafter according to the limitations in that AFM supplement.

**Note 2:** This may be done by inserting a copy of Gulfstream GV/GV-SP AFM Supplement CE51 628M001, Revision A, dated December 20, 2010, in the applicable AFM. When information in this AFM supplement has been included in general revisions of the applicable AFM, the general revisions may be inserted in the applicable AFM, provided the relevant information in the general

revision is identical to that in Gulfstream GV/GV-SP AFM Supplement CE51 628M001, Revision A, dated December 20, 2010, and that AFM supplement may be removed.

**(h) Credit for Actions Accomplished in Accordance With Previous Service Information**

Actions accomplished before the effective date of this AD in accordance with Gulfstream V Alert Customer Bulletin 30, dated December 6, 2010, including Gulfstream GV/GV-SP AFM Supplement CE51 628M001, dated November 18, 2010 (for Model GV airplanes); Gulfstream G550 Alert Customer Bulletin 10, dated December 6, 2010, including Gulfstream GV/GV-SP AFM Supplement CE51 628M001, dated November 18, 2010 (for Model GV airplanes); or G500 Alert Customer Bulletin 10, dated December 6, 2010, including Gulfstream GV/GV-SP AFM Supplement CE51 628M001, dated November 18, 2010 (for Model GV airplanes), are acceptable for compliance with the corresponding actions required by paragraph (g) of this AD.

**(i) Parts Installation**

As of the effective date of this AD, no person may install a third fire extinguisher bottle in the APU fragment impact zone (rotor fragment impact zone) of any airplane.

**(j) No Reporting**

Although the service information specified in paragraphs (j)(1), (j)(2), and (j)(3) of this AD specify to submit certain information to the manufacturer, this AD does not include that requirement.

(1) Gulfstream V Alert Customer Bulletin 30A, dated December 20, 2010, including Gulfstream GV/GV-SP AFM Supplement CE51 628M001, Revision A, dated December 20, 2010, (for Model GV airplanes).

(2) Gulfstream G500 Alert Customer Bulletin 10A, dated December 20, 2010, including Gulfstream GV/GV-SP AFM Supplement CE51 628M001, Revision A, dated December 20, 2010, (for Model GV-SP (G500) airplanes).

(3) Gulfstream G550 Alert Customer Bulletin 10A, dated December 20, 2010, including Gulfstream GV/GV-SP AFM Supplement CE51 628M001, Revision A, dated December 20, 2010, (for Model GV-SP (G550) airplanes).

**(k) Special Flight Permit**

Special flight permits, as described in Section 21.197 and Section 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199), may be issued to operate the airplane to a location where the requirements of this AD can be accomplished, provided the following conditions are met:

(1) If an airplane is grounded due to a single generator failure, the APU may be operated during a ferry flight, provided no passengers are carried.

(2) Only the minimum required flight-crew is allowed on any ferry flight.

**(l) 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 the Related Information section 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.

**(m) Related Information**

For more information about this AD, contact Sanford Proveaux, Aerospace Engineer, Continued Operational Safety and Certificate Management Branch, ACE-102A, FAA, Atlanta Aircraft Certification Office (ACO), 1701 Columbia Avenue, College Park, Georgia 30337; telephone (404) 474-5566; fax (404) 474-5606; email: sanford.proveaux@faa.gov.

**(n) Material Incorporated by Reference**

(1) You must use the following service information to do the actions required by this AD, unless the AD specifies otherwise. The Director of the Federal Register approved the incorporation by reference (IBR) under 5 U.S.C. 552(a) and 1 CFR part 51 of the following service information on the date specified:

(2) Gulfstream G500 Alert Customer Bulletin 10A, dated December 20, 2010, including Gulfstream GV/GV-SP airplane flight manual (AFM) Supplement CE51 628M001, Revision A, dated December 20, 2010, approved for IBR January 3, 2012.

(3) Gulfstream G550 Alert Customer Bulletin 10A, dated December 20, 2010, including Gulfstream GV/GV-SP AFM Supplement CE51 628M001, Revision A, dated December 20, 2010, approved for IBR January 3, 2012.

(4) Gulfstream V Alert Customer Bulletin 30A, dated December 20, 2010, including Gulfstream GV/GV-SP AFM Supplement CE51 628M001, Revision A, dated December 20, 2010, approved for IBR January 3, 2012.

(5) For service information identified in this AD, contact Gulfstream Aerospace Corporation, Technical Publications Dept., P.O. Box 2206, Savannah, Georgia 31402-2206; telephone (800) 810-4853; fax (912) 965-3520; e-mail 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 review copies of the referenced service information at the FAA.

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

(7) You may also review copies of the service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at an NARA facility, call (202) 741-6030, or go to [http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

Issued in Renton, Washington, on November 8, 2011.

Kalene C. Yanamura,  
Acting Manager, Transport Airplane Directorate,  
Aircraft Certification Service.