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[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2020-0713 Product Identifier 2019-CE-061-AD]

RIN 2120-AA64

Airworthiness Directives; Gulfstream Aerospace Corporation Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to adopt a new airworthiness directive (AD) for certain Gulfstream Aerospace Corporation GVII-G500 airplanes. This proposed AD was prompted by a report of a fuel quantity disparity between the overhead panel touch screens and the touch screen controllers. This proposed AD would require incorporating operating limitations into the airplane flight manual (AFM) until the fuel quantity management system (FQMS) software is updated. The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

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: 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 NPRM, contact Gulfstream Aerospace Corporation, Technical Publications Dept., P.O. Box 2206, Savannah, GA 31402-2206, telephone: 800-810-GULF (4853), email: pubs@gulfstream.com, internet: <https://www.gulfstream.com/en/customer-support/>. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call 816-329-4148.

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-2020-0713; 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 NPRM, 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: Jared Meyer, Aerospace Engineer, Atlanta ACO Branch, FAA, 107 Charles W. Grant Pkwy, Atlanta, GA 30354; phone: 404-474-5534; fax: 404-474-5605; email: jared.meyer@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2020-0713; Product Identifier 2019-CE-041-AD” at the beginning of your comments. The FAA will consider all comments received by the closing date and may amend this proposed AD because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments we receive, without change, to <https://regulations.gov>, including any personal information you provide. The FAA will also post a report summarizing each substantive verbal contact it receives about this proposed AD.

Confidential Business Information

Confidential Business Information (CBI) is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Jared Meyer, Aerospace Engineer, Atlanta ACO Branch, FAA, 107 Charles W. Grant Pkwy, Atlanta, GA 30354. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Discussion

The FAA was alerted by the manufacturer that certain Model GVII-G500 airplanes have exhibited a disparity between the fuel quantities displayed on the overhead panel touch screens and the fuel quantities displayed on the touch screen controllers. Investigation revealed two known failure conditions that the Model GVII-G500 FQMS does not properly detect and report to the crew. These failure conditions are fuel quantity probe drift and an FQMS over-current condition, which could result in erroneous and misleading fuel quantity indications, and could also result in erroneous and misleading

fuel imbalance indications. These conditions could cause a false annunciation of a fuel imbalance, a failure to annunciate an actual fuel imbalance, and a condition where the actual fuel quantity is less than or greater than the indicated fuel quantity. The FQMS software logic does not properly detect or compensate for these failure conditions.

This condition, if not addressed, could result in fuel starvation during flight, performance impacts of the airplane having more fuel than indicated, and a roll moment due to a fuel imbalance.

Related Service Information under 1 CFR part 51

The FAA reviewed Gulfstream Aerospace Corporation Aircraft Service Change (ASC) No. 025, Revision A, dated October 16, 2019; and GVII-G500 Airplane Flight Manual Supplement No. GVII-G500-2019-05, Revision 2, dated October 1, 2019. The service information updates the fuel quantity signal conditioner software to version 10003-42130-01-19.03, which resolves a known issue with potential erroneous fuel quantity readings and requires incorporating operating limitations into the airplane flight manual (AFM) until the fuel quantity management system (FQMS) software is updated. The AFM Supplement includes revisions to the airplane operating limitations. 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 proposing this AD because it evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of these same type designs.

Proposed AD Requirements

This proposed AD would require accomplishing the actions specified in the service information described previously.

Costs of Compliance

The FAA estimates that this proposed AD would affect 39 airplanes of U.S. registry.

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

Estimated costs				
Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Software update	26 work-hours X \$85 per hour = \$2,210	Not applicable	\$2,210	\$86,190
Airplane flight manual revision	1 work-hour X \$85 per hour = \$85	Not applicable	\$85	\$3,315

According to the manufacturer, some of the costs of this proposed AD may be covered under warranty, thereby reducing the cost impact on affected individuals. The FAA does not control warranty coverage for affected individuals. As a result, the FAA has included all costs in this 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.

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 determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would 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 this proposed regulation:

- (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 Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 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):

Gulfstream Aerospace Corporation: Docket No. FAA-2020-0713; Product Identifier 2019-CE-061-AD.

(a) Comments Due Date

The FAA must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

(b) Affected ADs

None.

(c) Applicability

This AD applies to Gulfstream Aerospace Corporation Model GVII-G500 airplanes, serial numbers 72001 through 72049, certificated in any category.

(d) Subject

Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code: 2840, Fuel Indicating System.

(e) Unsafe Condition

This AD was prompted by a fuel quantity disparity between the overhead panel touch screens and the touch screen controllers, which could result in inaccurate fuel indications. The FAA is issuing this AD to ensure a software update occurs correcting fuel quantity monitoring system software logic to compensate for a failed fuel quantity measuring sensor. The unsafe condition, if not addressed, could result in fuel starvation during flight.

(f) Compliance

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

(g) Actions

(1) Within 30 days after the effective date of this AD, revise the airplane flight manual for your airplane by incorporating the operating limitations in Gulfstream Aerospace GVII-G500 Airplane Flight Manual Supplement No. GVII-G500-2019-05, Revision 2, dated October 1, 2019.

(2) Within 12 months after the effective date of this AD, update the Fuel Quantity Signal Conditioner software to version 10003-42130-01-19.03 and perform an operational test in accordance with the Modification Instructions in Gulfstream GVII-G500 Aircraft Service Change No. 025, Revision A, dated October 16, 2019, except you are not required to report information to the manufacturer.

(3) The operating limitations required by paragraph (g)(1) of this AD, if installed, may be removed after completing the software update required by paragraph (g)(2) of this AD.

(h) Credit for Previous Actions

If you updated the Fuel Quantity Signal Conditioner software before the effective date of this AD using Gulfstream GVII-G500 Aircraft Service Change No. 025, dated July 19, 2019, you met the requirements of this AD.

(i) 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 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.

(j) Related Information

(1) For more information about this AD, contact Jared Meyer, Aerospace Engineer, Atlanta ACO Branch, FAA, 107 Charles W. Grant Pkwy, Atlanta, GA 30354; phone: 404-474-5534; fax: 404-474-5605; email: jared.meyer@faa.gov.

(2) For service information identified in this AD, contact Gulfstream Aerospace Corporation, Technical Publications Dept., P.O. Box 2206, Savannah, GA 31402, telephone: 800-810-4853, email: pubs@gulfstream.com, internet: <https://www.gulfstream.com/en/customer-support/>. You may review this referenced service information at the FAA, Airworthiness Products Section, Operational Safety

Branch, 901 Locust St, Kansas City, MO 64106. For information on the availability of this material at the FAA, call 816-329-4148.

Issued on July 22, 2020.

Gaetano A. Sciortino, Deputy Director for Strategic Initiatives,
Compliance & Airworthiness Division,
Aircraft Certification Service

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