



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2019-1024; Product Identifier 2019-CE-002-AD; Amendment 39-21126; AD 2020-11-01]

RIN 2120-AA64

Airworthiness Directives; Gulfstream Aerospace Corporation Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for certain Gulfstream Aerospace Corporation (Gulfstream) Model GVI airplanes. This AD was prompted by a report that the primary flight control actuation system (PFCAS) linear variable displacement transducer (LVDT) mechanical disconnect monitor may not trigger the disconnect of the affected control surfaces as required in the event of a control surface failure. This AD requires updating the software of each PFCAS remote electronics unit (REU), which includes an improvement to the LVDT. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: For the Gulfstream and Parker 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; Internet: <https://www.gulfstream.com/customer-support>. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call (816) 329-4148. It is also available on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2019-1024.

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-2019-1024; 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, the regulatory evaluation, 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: Myles Jalalian, Aerospace Engineer, Atlanta ACO Branch, FAA, 1701 Columbia Avenue, College Park, Georgia 30337; phone: (404) 474-5572; fax: (404) 474-5606; email: myles.jalalian@faa.gov.

.SUPPLEMENTARY INFORMATION:

Discussion

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain Gulfstream Aerospace Corporation (Gulfstream) Model GVI airplanes. The NPRM published in the *Federal Register* on December 16, 2019 (84 FR 68363).

The NPRM was prompted by a report from Gulfstream that the PFCAS LVDT mechanical disconnect monitor may not trigger the disconnect of the affected control surfaces as required in the event of a control surface failure. The Model GVI flight

control computer actuator LVDT disconnect monitor should disable the control surface for ailerons, elevators, and rudder in the event that one of those control surfaces fails. Gulfstream developed an REU software update that provides improvements to the LVDT of the PFCAS, which addresses the LVDT disconnect monitor problem.

This condition, if not addressed, could lead to spoiler hard-over or loss of structural integrity due to excessive surface deflection and result in loss of control of the airplane.

The NPRM proposed to require updating the software of each PFCAS REU, which includes an improvement to the LVDT. The FAA is issuing this AD to address the unsafe condition on these products.

Comments

The FAA gave the public the opportunity to participate in developing this final rule. The FAA received no comments on the NPRM or on the determination of the cost to the public.

Conclusion

The FAA reviewed the relevant data and determined that air safety and the public interest require adopting this final rule as proposed.

Related Service Information under 1 CFR part 51

The FAA reviewed Gulfstream G650 Customer Bulletin Number 201, dated September 28, 2017, and Gulfstream G650ER Customer Bulletin Number 201, dated September 28, 2017; which specify incorporating Gulfstream G650 Aircraft Service Change 069, dated September 28, 2017, or Gulfstream G650ER Aircraft Service Change 069, dated September 28, 2017. This service information differs because each document applies to a different airplane designation.

The FAA also reviewed Gulfstream G650 Aircraft Service Change 069, dated September 28, 2017, and Gulfstream G650ER Aircraft Service Change 069, dated September 28, 2017, which provide and reference procedures for preparing the REU for a software update.

The FAA reviewed Parker Service Bulletin 469000-27-003, Revision 1, dated October 11, 2017, which contains procedures for updating the software of the REU from Label 34 to Label 35. This update includes improved LVDT disconnect and oscillatory monitoring, force fight mitigation, troubleshooting, and rectification of other reported problems.

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

The FAA estimates that this AD affects 161 products installed on airplanes of U.S. registry.

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

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Update REU software	386 work-hours X \$85 per hour = \$32,810	None	\$32,810	\$5,282,410

According to the manufacturer, some of the costs of this d 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

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.

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):

2020-11-01 **Gulfstream Aerospace Corporation**: Amendment 39-21126; Docket No. FAA-2019-1024; Product Identifier 2019-CE-002-AD.

(a) Effective Date

This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to Gulfstream Aerospace Corporation Model GVI airplanes, certificated in any category, serial numbers 6001 through 6111, 6113 through 6133, and 6135 through 6274.

Note 1 to paragraph (c) of this AD: Model GVI airplanes are also referred to by the marketing designations G650 and G650ER.

(d) Subject

Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 27, Flight Controls.

(e) Unsafe Condition

This AD was prompted by a report that the primary flight control actuation system (PFCAS) linear variable displacement transducer (LVDT) mechanical disconnect monitor may not trigger the disconnect of the affected control surfaces as required in the event of a control surface failure. This condition, if not addressed, could lead to spoiler hard-over or loss of structural integrity due to excessive surface deflection and result in loss of control of the airplane.

(f) Compliance

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

(g) Software Upgrade

Within the next 24 months after [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER] (the effective date of this AD), update the software for each PFCAS remote electronics unit (REU) from Label 34 to Label 35 by following the Accomplishment Instructions in Gulfstream G650 Customer Bulletin Number 201, dated September 28, 2017, or Gulfstream G650ER Customer Bulletin Number 201, dated September 28, 2017; the Modification Instructions, sections A through C, in Gulfstream G650 Aircraft Service Change No. 069, dated September 28, 2017, or Gulfstream G650ER Aircraft Service Change No. 069, dated September 28, 2017; and the Accomplishment Instructions in Parker Service Bulletin 469000-27-003, Revision 1, dated October 11, 2017; except you are not required to submit information to the manufacturer.

(h) 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 (i)(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 (h)(3)(i) and (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. 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.

(i) Related Information

For more information about this AD, contact Myles Jalalian, Aerospace Engineer, Atlanta ACO Branch, FAA, 1701 Columbia Avenue, College Park, Georgia 30337; phone: (404) 474-5572; fax: (404) 474-5606; email: myles.jalalian @faa.gov.

(j) 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 5.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Gulfstream G650 Customer Bulletin Number 201, dated September 28, 2017.

(ii) Gulfstream G650ER Customer Bulletin Number 201, dated September 28, 2017.

(iii) Gulfstream G650 Aircraft Service Change 069, dated September 28, 2017.

(iv) Gulfstream G650ER Aircraft Service Change 069, dated September 28, 2017.

(v) Parker Service Bulletin 469000-27-003, Revision 1, dated October 11, 2017

(3) For Gulfstream and Parker service information identified in this AD, 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: <https://www.gulfstream.com/customer-support>.

(4) You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call (816) 329-4148. In addition, you can access this service information on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2019-1024.

(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, email fedreg.legal@nara.gov, or go to: <https://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued on May 15, 2020.

Lance T. Gant, Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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