



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2023-1805; Project Identifier AD-2023-00019-T]

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 supersede Airworthiness Directive (AD) 2020-23-04, which applies to certain Gulfstream Aerospace Corporation Model GVII-G500 and GVII-G600 airplanes. AD 2020-23-04 requires revising the existing airplane flight manual (AFM) and airplane maintenance manual (AMM) to include information pertaining to the fuel boost pump. Since the FAA issued AD 2020-23-04, an inspection for a missing or misplaced impeller shaft key of suspect fuel boost pumps has been developed that would terminate the actions of AD 2020-23-04. This proposed AD would retain the requirements of AD 2020-23-04 and require inspecting affected fuel boost pumps for proper installation of the impeller shaft key, marking affected fuel boost pumps that pass that inspection, and replacing fuel boost pumps that fail. This proposed AD would also limit installation of affected fuel boost pumps. 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 [regulations.gov](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.

AD Docket: You may examine the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2023-1805; 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.

Material Incorporated by Reference:

- For service information identified in this NPRM, contact Gulfstream Aerospace Corporation, Technical Publications Dept., P.O. Box 2206, Savannah, GA 31402-2206; telephone 800-810-4853; email pubs@gulfstream.com; website [gulfstream.com/en/customer-support](https://www.gulfstream.com/en/customer-support).

- You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available on the internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2023-1805.

FOR FURTHER INFORMATION CONTACT: Jared Meyer, Aviation Safety Engineer, FAA, 1701 Columbia Avenue, College Park, GA 30337; phone: 404-474-5534; email: 9-ASO-ATLACO-ADs@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include “Docket No. FAA-2023-1805; Project Identifier AD-2023-00019-T” at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend the proposal 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 received, without change, to regulations.gov, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this proposed AD.

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, Aviation Safety Engineer, FAA, 1701 Columbia Avenue, College Park, GA 30337; phone: 404-474-5534; email: 9-ASO-ATLACO-ADs@faa.gov. Any commentary that the

FAA receives that is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

The FAA issued AD 2020-23-04, Amendment 39-21320 (85 FR 71232, November 9, 2020) (AD 2020-23-04), for certain Gulfstream Aerospace Corporation Model GVII-G500 and GVII-G600 airplanes. AD 2020-23-04 was prompted by a report of misassembled impellers on the shaft of the fuel boost pump during production. AD 2020-23-04 requires revising the existing AFM and AMM to include information pertaining to the fuel boost pump. The agency issued AD 2020-23-04 to prevent the ignition of flammable vapors in the fuel tank as a result of frictional heating or sparks caused by a dislodged impeller shaft key inside the fuel boost pump, which, if the pump were to run dry, could result in a fuel tank fire or fuel tank explosion.

Actions Since AD 2020-23-04 Was Issued

The preamble to AD 2020-23-04 specifies that the FAA considers the requirements “interim action” and that the manufacturer is developing a modification that will address the unsafe condition. That AD explains that the FAA might consider further rulemaking if a modification is developed, approved, and available. The manufacturer now has developed inspection instructions for fuel boost pumps to determine correct installation of the impeller shaft key, including replacement or re-identification, as applicable, that will terminate the requirement to update the AFM and AMM, and the FAA has determined that further rulemaking is indeed necessary; this proposed AD follows from that determination.

FAA’s Determination

The FAA is issuing this NPRM after determining that the unsafe condition described previously is likely to exist or develop on other products of the same type design.

Related Service Information under 1 CFR Part 51

The FAA reviewed Gulfstream GVII-G500 Customer Bulletin No. 069 and Gulfstream GVII-G600 Customer Bulletin No. 037, both Revision A, both dated February 2, 2023, which describe procedures for inspecting affected fuel boost pumps for proper installation of the impeller shaft key, marking affected fuel boost pumps that pass that inspection, and replacing fuel boost pumps that fail. These documents are distinct since they apply to different airplane models.

This proposed AD would also require the following Gulfstream service information, which the Director of the Federal Register approved for incorporation on November 24, 2020 (85 FR 71232).

- GVII-G500 Maintenance Manual 12-13-01 Defueling Procedure-Defuel, dated August 31, 2020.

- GVII-G500 Maintenance Manual 28-26-04 Fuel Boost Pump-Prime, dated August 31, 2020.

- Gulfstream Aerospace GVII-G500 Airplane Flight Manual Supplement No. GVII-G500 (Issue 1)-2020-05, dated September 8, 2020.

- Gulfstream Aerospace GVII-G500 Airplane Flight Manual Supplement No. GVII-G500-2020-06, dated September 8, 2020.

- GVII-G600 Maintenance Manual 28-26-05 Fuel Boost Pump Canister-Removal/Installation, dated August 31, 2020.

- GVII-G600 Maintenance Manual 12-13-01 Defueling Procedure-Defuel, dated August 31, 2020.

- GVII-G600 Maintenance Manual 28-26-04 Fuel Boost Pump-Prime, dated August 31, 2020.

- GVII-G600 Maintenance Manual 28-26-04 Fuel Boost Pump-Removal/Installation, dated August 31, 2020.

- Gulfstream Aerospace GVII-G600 Airplane Flight Manual Supplement

No. GVII-G600-2020-06 dated September 8, 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.

Proposed AD Requirements in this NPRM

This proposed AD would retain all requirements of AD 2020-23-04. This proposed AD would also require accomplishing the actions identified as “RC” (required for compliance) in the Accomplishment Instructions of Gulfstream GVII-G500 Customer Bulletin No. 069 and Gulfstream GVII-G600 Customer Bulletin No. 037, both Revision A, both dated February 2, 2023, already described, except as discussed under “Differences Between the Service Information and this Proposed AD.” This proposed AD would also limit the installation of affected parts.

Difference Between Service Information and this Proposed AD

For this AD, step III.D. of Gulfstream GVII-G500 Customer Bulletin No. 069, Revision A, dated February 2, 2023, and Gulfstream GVII-G600 Customer Bulletin No. 037, Revision A, dated February 2, 2023, as applicable, is also RC.

Costs of Compliance

The FAA estimates that this AD, if adopted as proposed, would affect 89 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
Incorporate information into AMM and AFM (retained actions from AD 2020-23-04)	2 work-hours X \$85 per hour = \$170	\$0	\$170	\$15,130

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Impeller shaft key inspection (new proposed action)	36 work-hours X \$85 per hour = \$3,060	0	3,060	272,340

The FAA estimates the following costs to do any necessary part marking and fuel boost pump replacements that would be required based on the results of the proposed inspection for proper installation. The FAA has no way of determining the number of aircraft that might need these actions:

On-condition costs

Action	Labor cost	Parts cost	Cost per product
Part marking	0.5 work-hour X \$85 per hour = \$42.50	\$10	\$52.50
Fuel pump replacement (per fuel boost pump)	10 work-hours X \$85 per hour = \$850	\$106,706	\$107,556

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

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 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 that the proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Would not affect intrastate aviation in Alaska, and
- (3) Would 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:

- a. Removing Airworthiness Directive (AD) 2020-23-04, Amendment 39-21320 (85 FR 71232, November 9, 2020), and

- b. Adding the following new AD:

Gulfstream Aerospace Corporation: Docket No. FAA-2023-1805; Project Identifier AD-2023-00019-T.

(a) Comments Due Date

The FAA must receive comments on this airworthiness directive (AD) action by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD replaces AD 2020-23-04, Amendment 39-21320 (85 FR 71232, November 9, 2020) (AD 2020-23-04).

(c) Applicability

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

(1) Model GVII-G500 airplanes, serial numbers (S/Ns) 72001 and subsequent.

(2) Model GVII-G600 airplanes, S/Ns 73001 and subsequent.

(d) Subject

Air Transport Association (ATA) of America Code 2822, Fuel Boost Pump.

(e) Unsafe Condition

This AD was prompted by a report of misassembled impellers onto the shaft of the fuel boost pump during production. The FAA is issuing this AD to prevent the ignition of flammable vapors in the fuel tank as a result of frictional heating or sparks caused by a missing, misplaced, or dislodged impeller shaft key inside the fuel boost pump. The unsafe condition, if not addressed, could result in a potential source of ignition in the fuel tank and consequent fire or explosion.

(f) Compliance

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

(g) Retained Manual Updates, with No Changes

This paragraph restates the requirements of paragraph (g) of AD 2020-23-04, with no changes. For Model GVII-G500 airplane S/Ns 72001 and 72007 through 72062 inclusive; and Model GVII-G600 airplane S/Ns 73002, 73004, 73006 through 73040 inclusive, 73042, and 73043: Within 14 days after November 24, 2020 (the effective date of AD 2020-23-04), do the actions in paragraphs (g)(1) through (3) of this AD, as applicable.

(1) Revise your existing airplane maintenance manual (AMM) by replacing the procedures listed in paragraphs (g)(1)(i) through (vi) of this AD, as applicable for your model airplane.

(i) GVII-G500 Maintenance Manual 12-13-01 Defueling Procedure-Defuel, dated August 31, 2020;

(ii) GVII-G500 Maintenance Manual 28-26-04 Fuel Boost Pump-Prime, dated August 31, 2020;

(iii) GVII-G600 Maintenance Manual 12-13-01 Defueling Procedure-Defuel, dated August 31, 2020;

(iv) GVII-G600 Maintenance Manual 28-26-04 Fuel Boost Pump-Prime, dated August 31, 2020;

(v) GVII-G600 Maintenance Manual 28-26-04 Fuel Boost Pump-Removal/ Installation, dated August 31, 2020; and

(vi) GVII-G600 Maintenance Manual 28-26-05 Fuel Boost Pump Canister- Removal/ Installation, dated August 31, 2020.

(2) Revise your existing airplane flight manual (AFM) by including in the AFM the airplane flight manual supplement (AFMS) listed in paragraph (g)(2)(i), (ii), or (iii) of this AD that is applicable to your model airplane. Using a later AFM revision with

information identical to that contained in the AFMS specified for your airplane is acceptable for compliance with the requirement of this paragraph.

(i) Gulfstream Aerospace GVII-G500 Airplane Flight Manual Supplement No. GVII-G500 (Issue 1)-2020-05, dated September 8, 2020;

(ii) Gulfstream Aerospace GVII-G500 Airplane Flight Manual Supplement No. GVII-G500-2020-06, dated September 8, 2020; or

(iii) Gulfstream Aerospace GVII-G600 Airplane Flight Manual Supplement No. GVII-G600-2020-06, dated September 8, 2020.

(3) The action required by paragraph (g)(2) of this AD may be performed by the owner/operator (pilot) holding at least a private pilot certificate and must be entered into the aircraft records showing compliance with this AD in accordance with 14 CFR 43.9(a)(1) through (4), and 14 CFR 91.417(a)(2)(v). The record must be maintained as required by 14 CFR 91.417, 121.380, or 135.439.

(h) New Requirements

For Model GVII-G500 airplane S/Ns 72001 and 72007 through 72062 inclusive; and Model GVII-G600 airplane S/Ns 73002, 73004, 73006 through 73040 inclusive, 73042, and 73043: Except as specified in paragraph (i) of this AD, within 24 months after the effective date of this AD, do all actions specified in paragraph III.D. and all applicable actions identified as “RC” (required for compliance) in, and in accordance with, the Accomplishment Instructions of Gulfstream GVII-G500 Customer Bulletin No. 069 or GVIII-G600 Customer Bulletin No. 037, both Revision A, dated February 2, 2023, as applicable.

Note 1 to paragraph (h): The serial number on the aft exterior of the pump is not the pump serial number.

Note 2 to paragraph (h): Guidance on pump removal and installation procedures can be found in GVII-G500 Aircraft Maintenance Manual, Revision 12, and GVII-G600 Aircraft Maintenance Manual, Revision 8, both dated August 15, 2022.

(i) Service Information Exception

Where Gulfstream GVII-G500 Customer Bulletin No. 069 and GVIII-G600 Customer Bulletin No. 037, both Revision A, dated February 2, 2023, specify to return any pump for repair, this AD requires replacing the pump before further flight in accordance with the requirements of paragraph (h) of this AD.

(j) Terminating Action for Paragraph (g) of this AD

The requirements of paragraph (g) of this AD are terminated if all applicable actions required by paragraph (h) of this AD have been accomplished.

(k) Parts Installation Limitation

As of the effective date of the AD, no person may install on any airplane a fuel boost pump having a part and serial number specified in Table 1 of Gulfstream GVII-G500 Customer Bulletin No. 069 or Gulfstream GVII-G600 Customer Bulletin No. 037, both Revision A, both dated February 2, 2023, as applicable, unless that pump is marked with the letter “C” to the right of the “INSP” legend on the pump data area.

(l) Credit for Previous Actions

This paragraph provides credit for the actions specified in paragraph (h) of this AD, if those actions were performed before the effective date of this AD using the service information identified in paragraphs (l)(1) and (2) of this AD, as applicable. This service information is not incorporated by reference in this AD.

(1) Gulfstream GVII-G500 Customer Bulletin No. 069, dated October 19, 2022.

(2) Gulfstream GVII-G600 Customer Bulletin No. 037, dated October 19, 2022.

(m) Alternative Methods of Compliance (AMOCs)

(1) The Manager, East Certification 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 responsible Flight Standards 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 (n)(1) of this AD.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(3) AMOCs approved for AD 2020-23-04 are approved as AMOCs for the corresponding provisions of this AD.

(4) For service information that contains steps that are labeled as Required for Compliance (RC), the provisions of paragraphs (m)(4)(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.

(n) Related Information

(1) For more information about this AD, contact Jared Meyer, Aviation Safety Engineer, FAA, 1701 Columbia Avenue, College Park, GA 30337; phone: 404-474-5534; email: 9-ASO-ATLACO-ADs@faa.gov.

(2) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (o)(5) and (6) of this AD.

(o) 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 this AD specifies otherwise.

(3) The following service information was approved for IBR on [DATE 35 DAYS AFTER PUBLICATION OF THE FINAL RULE].

(i) Gulfstream GVII-G500 Customer Bulletin No. 069, Revision A, dated February 2, 2023.

(ii) Gulfstream GVII-G600 Customer Bulletin No. 037, Revision A, dated February 2, 2023.

(4) The following service information was approved for IBR on November 9, 2020 (85 FR 71232).

(i) Gulfstream Aerospace GVII-G500 Airplane Flight Manual Supplement No. GVII-G500 (Issue 1)-2020-05, dated September 8, 2020.

(ii) Gulfstream Aerospace GVII-G500 Airplane Flight Manual Supplement No. GVII-G500-2020-06, dated September 8, 2020.

(iii) Gulfstream Aerospace GVII-G600 Airplane Flight Manual Supplement No. GVII-G600-2020-06 dated September 8, 2020.

(iv) GVII-G500 Maintenance Manual 12-13-01 Defueling Procedure-Defuel, dated August 31, 2020

(v) GVII-G500 Maintenance Manual 28-26-04 Fuel Boost Pump-Prime, dated August 31, 2020.

(vi) GVII-G600 Maintenance Manual 12-13-01 Defueling Procedure-Defuel, dated August 31, 2020.

(vii) GVII-G600 Maintenance Manual 28-26-04 Fuel Boost Pump-Prime, dated August 31, 2020.

(viii) GVII-G600 Maintenance Manual 28-26-04 Fuel Boost Pump-Removal/ Installation, dated August 31, 2020; and

(ix) GVII-G600 Maintenance Manual 28-26-05 Fuel Boost Pump Canister- Removal/ Installation, dated August 31, 2020.

(5) For 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; email pubs@gulfstream.com; website gulfstream.com/en/customer-support.

(6) You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(7) 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, or go to: www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued on August 24, 2023.

Victor Wicklund, Deputy Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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