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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 25

[Docket No. FAA-2026-9408; Special Conditions No. 25-897-SC]

Special Conditions: Gulfstream Aerospace Corporation, Model GVII-G400 Airplane; Flight Envelope Protection: Takeoff Stall Protection

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final special conditions; request for comments.

SUMMARY: These special conditions are issued for the Gulfstream Aerospace Corporation (Gulfstream) Model GVII-G400 airplane. This airplane will have a novel or unusual design feature when compared to the state of technology envisioned in the airworthiness standards for transport category airplanes. This design feature is an envelope protection function to protect the airplane from over- and rapid-rotation on takeoff. The applicable airworthiness regulations do not contain adequate or appropriate safety standards for this design feature. These special conditions contain the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to that established by the existing airworthiness standards.

DATES: This action is effective on Gulfstream on [INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]. Send comments on or before [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: Send comments identified by Docket No. FAA-2026-9408 using any of the following methods:

- *Federal eRegulations Portal:* Go to www.regulations.gov and follow the online instructions for sending your comments electronically.

- *Mail:* Send comments to Docket Operations, M-30, U.S. Department of Transportation (DOT), 1200 New Jersey Avenue, SE, Room W12-140, West Building Ground Floor, Washington, DC, 20590-0001.
- *Hand Delivery or Courier:* Take comments to Docket Operations in Room W12-140 of the West Building Ground Floor at 1200 New Jersey Avenue, SE, Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.
- *Fax:* Fax comments to Docket Operations at 202-493-2251.

Docket: Background documents or comments received may be read at www.regulations.gov at any time. Follow the online instructions for accessing the docket or go to Docket Operations in Room W12-140 of the West Building Ground Floor at 1200 New Jersey Avenue, SE, Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: Troy Brown, Flight Performance and Human Factors Section, AIR-687, Certification Standards Division, Aircraft Certification Service, Federal Aviation Administration, 1801 S Airport Rd., Wichita, KS 67209-2190; telephone and fax 405-666-1050; email troy.a.brown@faa.gov.

SUPPLEMENTARY INFORMATION:

The substance of these special conditions has been published in the *Federal Register* for public comment in several prior instances with no substantive comments received. Therefore, the FAA finds, pursuant to 14 CFR 11.38(b), that new comments are unlikely, and notice and comment prior to this publication are unnecessary.

Privacy

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in title 14, Code of Federal Regulations (14 CFR) 11.35, the FAA will post all comments received without change to

www.regulations.gov, including any personal information you provide. The FAA will also post a report summarizing each substantive verbal contact received about these special conditions.

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 these special conditions contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to these special conditions, 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 the indicated comments will not be placed in the public docket of these proposed special conditions. Send submissions containing CBI to the individual listed in the For Further Information Contact section above. Comments the FAA receives, which are not specifically designated as CBI, will be placed in the public docket for these proposed special conditions.

Comments Invited

The FAA invites interested people to take part in this rulemaking by sending written comments, data, or views. The most helpful comments reference a specific

portion of the special conditions, explain the reason for any recommended change, and include supporting data.

The FAA will consider all comments received by the closing date for comments. The FAA may change these special conditions based on the comments received.

Background

On December 1, 2022, Gulfstream applied for an amendment to Type Certificate No. T00021AT to include the new Model GVII-G400 airplane. The Gulfstream Model GVII-G400 airplane, which is a derivative of the Gulfstream Model GVII-500 (currently approved under Type Certificate No. T00021AT), is a twin engine transport category airplane with seating for 19 passengers and 2 crew, and has a maximum takeoff weight of 73,500 pounds.

Type Certification Basis

Under the provisions of title 14, Code of Federal Regulations (14 CFR) 21.101, Gulfstream must show that the Model GVII-G400 airplane meets the applicable provisions of the regulations listed in Type Certificate No. T00021AT, or the applicable regulations in effect on the date of application for the change, except for earlier amendments as agreed upon by the FAA.

If the Administrator finds that the applicable airworthiness regulations (e.g., 14 CFR part 25) do not contain adequate or appropriate safety standards for the Gulfstream Model GVII-G400 airplane because of a novel or unusual design feature, special conditions are prescribed under the provisions of § 21.16.

Special conditions are initially applicable to the model for which they are issued. Should the type certificate for that model be amended later to include any other model that incorporates the same novel or unusual design feature, or should any other model already included on the same type certificate be modified to incorporate the same novel

or unusual design feature, these special conditions would also apply to the other model under § 21.101.

In addition to the applicable airworthiness regulations and special conditions, the Gulfstream Model GVII-G400 airplane must comply with the exhaust-emission requirements of 14 CFR part 34, and the noise-certification requirements of 14 CFR part 36.

The FAA issues special conditions, as defined in 14 CFR 11.19, in accordance with 14 CFR § 11.38, and they become part of the type certification basis under § 21.101.

Novel or Unusual Design Features

The Gulfstream Model GVII-G400 airplane will incorporate the following novel or unusual design feature:

An envelope protection function within the electronic flight control system (EFCS) to protect the airplane from over- and rapid-rotation on takeoff.

Discussion

The Gulfstream Model GVII–G400 series airplanes are equipped with an envelope protection function within the EFCS that is designed to provide an enhanced takeoff stall protection (TSP) function. This feature protects against excessive pitch rate and pitch attitude during takeoff using a limitation in the electronic flight controls. It is designed to provide conventional behavior using a normal takeoff technique, including "performance" takeoffs. The on-ground mode is a pitch rate command with a pitch attitude limit. The functionality in on-ground mode is that pitch rate command is proportional to stick input. The limit to pitch attitude will indirectly limit the angle of attack.

The TSP involves a control law update in the on-ground control mode only. The Model GVII–G400 series airplane's pitch control behavior, with regard to rotation rates and attitudes for normal takeoffs, will be similar to other Gulfstream airplanes equipped

with side sticks; however, takeoffs with rapid rotation rates and over-rotation will be influenced by the TSP.

The current regulations in Subpart B of 14 CFR part 25 do not address envelope protections for electronic flight control systems as this technology is novel or unusual for transport category airplanes. These special conditions are specific to Gulfstream airplanes incorporating TSP function. These conditions are necessary to ensure that the TSP function supports safe operation and does not interfere with required maneuvering in normal and emergency operations and in foreseeable atmospheric conditions. These conditions also ensure that the structural limits of the airplane are not exceeded. Furthermore, failure of the TSP function must not create hazardous flight conditions.

The special conditions contain the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to that established by the existing airworthiness standards.

Applicability

As discussed above, these special conditions are applicable to the Gulfstream Model GVII-G400 airplane. Should Gulfstream apply at a later date for a change to the type certificate to include another model incorporating the same novel or unusual design feature, these special conditions would apply to that model as well.

Conclusion

This action affects only a certain novel or unusual design feature on GVII-G400 series of airplanes. It is not a rule of general applicability.

List of Subjects in 14 CFR Part 25

Aircraft, Aviation safety, Reporting and recordkeeping requirements.

Authority Citation

The authority citation for these special conditions is as follows:

Authority: 49 U.S.C. 106(f), 40113, 44701, 44702, and 44704.

The Special Conditions

Accordingly, pursuant to the authority delegated to me by the Administrator, the following special conditions are issued as part of the type certification basis for the Gulfstream Model GVII–G400 series airplanes, and will be applied by the FAA to the extent necessary to certify the envelope protection function within the electronic flight control system (EFCS) that protects the airplane from over- and rapid-rotation on takeoff.

For airplanes that employ envelope protection functions:

1. Envelope protection functions must not unduly limit the maneuvering capability of the airplane nor interfere with its ability to perform maneuvers required for normal and emergency operations.

2. Onset characteristics of each envelope protection function must be appropriate to the phase of flight and type of maneuver and must not conflict with the ability of the pilot to satisfactorily control the airplane flight path, speed, or attitude.

3. Excursions of a limited flight parameter beyond its nominal design limit value due to dynamic maneuvering, airframe and system tolerances, and non-steady atmospheric conditions must not result in unsafe flight characteristics or conditions.

4. Operation of envelope protection functions must not adversely affect aircraft control during expected levels of atmospheric disturbances, nor impede the application of recovery procedures in case of windshear.

5. Simultaneous activation of envelope protection functions must not result in adverse coupling or adverse priority.

6. In case of abnormal attitude or excursion of any flight parameters outside the protected boundaries, operation of envelope protection functions must not hinder airplane recovery.

Issued in Des Moines, WA, on October 29, 2026.

Paul R. Siegmund,
Manager, Transport Airplane and Turbine Engine Standards Branch,
Certification Standards Division,
Aircraft Certification Service.
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