

economic effects of the rules, the Agency would publish a notice of availability in the **Federal Register** and would provide an opportunity for public comment (69 FR 1871, 1883). Consistent with these statements, FSIS is now announcing the availability of the PRIA of these interim final rules (which also includes an analysis of the effects of the other interim final rule and the notice published in the **Federal Register** on January 12, 2004) and is providing the public 30 days on which to comment on the analysis.

In addition to announcing the availability of the PRIA, FSIS is also extending the comment period for all of the interim final rules issued on January 12, 2004, so that the comment period for these rules and the PRIA will close on the same day.

#### Additional Public Notification

Public awareness of all segments of rulemaking and policy development is important. Consequently, in an effort to better ensure that the public, and in particular minorities, women, and persons with disabilities, are aware of this notice, FSIS will announce it on-line through the FSIS Web page located at <http://www.fsis.usda.gov>. The Regulations.gov Web site is the central online rulemaking portal of the United States government. It is being offered as a public service to increase participation in the Federal government's regulatory activities. FSIS participates in Regulations.gov and will accept comments on documents published on the site. The site allows visitors to search by keyword or Department or Agency for rulemakings that allow for public comment. Each entry provides a quick link to a comment form so that visitors can type in their comments and submit them to FSIS. The Web site is located at <http://www.regulations.gov>.

FSIS also will make copies of this **Federal Register** publication available through the FSIS Constituent Update, which is used to provide information regarding FSIS policies, procedures, regulations, **Federal Register** notices, FSIS public meetings, recalls, and other types of information that could affect or would be of interest to our constituents and stakeholders. The update is communicated via Listserv, a free e-mail subscription service consisting of industry, trade, and farm groups, consumer interest groups, allied health professionals, scientific professionals, and other individuals who have requested to be included. The update also is available on the FSIS Web page. Through Listserv and the Web page, FSIS is able to provide information to a much broader, more diverse audience.

Done in Washington, DC, on: April 2, 2004.

**Philip S. Derfler,**

*Acting Administrator.*

[FR Doc. 04-7925 Filed 4-5-04; 11:15 am]

**BILLING CODE 3410-DM-M**

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 25

**[Docket No. NM275; Special Conditions No. 25-258-SC]**

#### **Special Conditions: Gulfstream Model GIV-X Airplane; Interaction of Systems and Structures**

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

**ACTION:** Final special conditions; request for comments.

**SUMMARY:** These special conditions are issued for the Gulfstream Model GIV-X airplane. This airplane will have novel or unusual design features when compared to the state of technology envisioned in the airworthiness standards for transport category airplanes. These design features are associated with new or modified flight control systems, including the yaw damper and hard-over prevention system, that affect the structural performance of the airplane. The applicable airworthiness regulations do not contain adequate or appropriate safety standards for these systems and their effect on structural performance. 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 applicable airworthiness standards.

**DATES:** The effective date of these special conditions is March 29, 2004. Comments must be received on or before May 7, 2004.

**ADDRESSES:** Comments on these special conditions may be mailed in duplicate to: Federal Aviation Administration, Transport Airplane Directorate, Aircraft Certification Service, Attention: Rules Docket (ANM-113), Docket No. NM275, 1601 Lind Avenue SW., Renton, Washington 98055-4056; or delivered in duplicate to the Transport Airplane Directorate at the above address. All comments must be marked: Docket No. NM275. Comments may be inspected in the Rules Docket weekdays, except Federal holidays, between 7:30 a.m. and 4 p.m.

**FOR FURTHER INFORMATION CONTACT:** Todd Martin, FAA, Airframe/Cabin

Safety Branch, ANM-115, Transport Airplane Directorate, Aircraft Certification Service, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-1178; facsimile (425) 227-1320.

#### **SUPPLEMENTARY INFORMATION:**

##### **Comments Invited**

The FAA has determined that notice and opportunity for prior public comment is impracticable, because these procedures would significantly delay certification and, thus, delivery of the airplane. The FAA, therefore, finds that good cause exists for making these special conditions effective upon issuance; however, the FAA invites interested persons to participate in this rulemaking by submitting 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. We ask that you send us two copies of written comments.

We will file in the docket all comments we receive as well as a report summarizing each substantive public contact with FAA personnel concerning these special conditions. The docket is available for public inspection before and after the comment closing date. If you wish to review the docket in person, go to the address in the **ADDRESSES** section of this preamble between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

We will consider all comments we receive on or before the closing date for comments. We will consider comments filed late if it is possible to do so without incurring expense or delay. We may change these special conditions in light of the comments we receive.

If you want the FAA to acknowledge receipt of your comments on these special conditions, include with your comments a pre-addressed, stamped postcard on which the docket number appears. We will stamp the date on the postcard and mail it to you.

##### **Background**

On August 22, 2000, Gulfstream applied for an amendment to Type Certificate No. A12EA to include an updated version of the Model GIV airplane. The Model GIV-X, which is a derivative of the GIV airplane currently approved under Type Certificate No. A12EA, is a pressurized, low-wing, "T" tail transport category airplane with tricycle landing gear. It is powered by two Rolls-Royce model Tay 611-8C engines and will carry a maximum of 19 passengers.

The primary differences between the existing GIV and the new GIV-X are the installation of an advanced avionics and flight deck display suite, airframe aerodynamic changes to increase performance, range and economics, derivative Tay 611-8C engines with GV nacelles and thrust reversers, and a new Full Authority Digital Engine Control (FADEC). Additionally, the GIV-X includes a modified yaw damper and a new hard-over prevention system (HOPS) which serve to alleviate loads in the airframe but, when in a failure state, can create loads in the airframe. The current regulations do not adequately account for the effects of these systems and their failures on structural performance. These special conditions will require Gulfstream to substantiate the strength capability and freedom from aeroelastic instabilities after failures in yaw damper and HOPS systems.

### Type Certification Basis

Under the provisions of 14 CFR 21.101, Gulfstream must show that the Model GIV-X airplane meets the applicable provisions of the regulations incorporated by reference in Type Certificate No. A12EA or the applicable regulations in effect on the date of application for the change. The regulations incorporated by reference in the type certificate are commonly referred to as the "original type certification basis." The regulations incorporated by reference in Type Certificate No. A12EA are 14 CFR part 25, effective February 1, 1965, including Amendments 25-1 through 25-56, except for the following sections which are limited to showing compliance with the amendments indicated: part 25 effective February 1, 1965, § 25.109, 25.571, and 25.813; part 25 Amendment 25-22, § 25.571; and part 25 Amendment 25-15, § 25.807(c)(2). In addition, the certification basis includes certain special conditions, exemptions, and equivalent safety findings that are not relevant to these special conditions.

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

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

Special conditions, as defined in § 11.19, are issued in accordance with § 11.38 and become part of the type certification basis in accordance with § 21.101.

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, the special conditions would also apply to the other model under the provisions of § 21.101.

### Novel or Unusual Design Feature

The Model GIV-X airplane will have systems that affect the structural performance of the airplane, either directly or as a result of a failure or malfunction. These novel or unusual design features are systems that can serve to alleviate loads in the airframe but, when in a failure state, can create loads in the airframe. The current regulations do not adequately account for the effects of these systems and their failures on structural performance. These special conditions provide the criteria to be used in assessing the effects of these systems on structures.

### Conclusion

This action affects only certain novel or unusual design features on the Gulfstream Model GIV-X airplane. It is not a rule of general applicability and affects only the applicant who applied to the FAA for approval of these features on the airplane.

### List of Subjects in 14 CFR Part 25

Aircraft, Aviation safety, Reporting and recordkeeping requirements.

■ The authority citation for these special conditions is as follows:

**Authority:** 49 U.S.C. 106(g), 40113, 44701, 44702, 44704.

### The Proposed Special Conditions

#### Interaction of Systems and Structure

1. *General.* For airplanes equipped with systems that affect structural performance, either directly or as a result of a failure or malfunction, the influence of these systems and their failure conditions must be taken into account when showing compliance with the requirements of subparts C and D of part 25. The following criteria must be used for showing compliance with these special conditions for airplanes equipped with flight control systems, autopilots, stability augmentation

systems, load alleviation systems, flutter control systems, and fuel management systems. If these special conditions are used for other systems, it may be necessary to adapt the criteria to the specific system.

(a) The criteria defined herein only address the direct structural consequences of the system responses and performances and cannot be considered in isolation but should be included in the overall safety evaluation of the airplane. These criteria may in some instances duplicate standards already established for this evaluation. These criteria are only applicable to structures whose failure could prevent continued safe flight and landing. Specific criteria that define acceptable limits on handling characteristics or stability requirements when operating in the system degraded or inoperative modes are not provided in these special conditions.

(b) Depending upon the specific characteristics of the airplane, additional studies that go beyond the criteria provided in these special conditions may be required in order to demonstrate the capability of the airplane to meet other realistic conditions, such as alternative gust or maneuver descriptions, for an airplane equipped with a load alleviation system.

(c) The following definitions are applicable to these special conditions.

*Structural performance.* Capability of the airplane to meet the structural requirements of part 25.

*Flight limitations:* Limitations that can be applied to the airplane flight conditions following an in-flight occurrence and that are included in the flight manual (e.g., speed limitations, avoidance of severe weather conditions, etc.).

*Operational limitations:* Limitations, including flight limitations that can be applied to the airplane operating conditions before dispatch (e.g., fuel, payload, and Master Minimum Equipment List limitations).

*Probabilistic terms:* The probabilistic terms (probable, improbable, extremely improbable) used in these special conditions are the same as those used in § 25.1309.

*Failure condition:* The term failure condition is the same as that used in § 25.1309; however, these special conditions apply only to system failure conditions that affect the structural performance of the airplane (e.g., system failure conditions that induce loads, lower flutter margins, or change the response of the airplane to inputs such as gusts or pilot actions).

2. *Effects of Systems on Structures.* The following criteria will be used in

determining the influence of a system and its failure conditions on the airplane structure.

(a) *System fully operative.* With the system fully operative, the following apply.

(1) Limit loads must be derived in all normal operating configurations of the system from all the limit conditions specified in subpart C, taking into account any special behavior of such a system or associated functions, or any effect on the structural performance of the airplane that may occur up to the limit loads. In particular, any significant nonlinearity (rate of displacement of control surface, thresholds, or any other system nonlinearities) must be accounted for in a realistic or

conservative way when deriving limit loads from limit conditions.

(2) The airplane must meet the strength requirements of part 25 (static strength, residual strength), using the specified factors to derive ultimate loads from the limit loads defined above. The effect of nonlinearities must be investigated beyond limit conditions to ensure the behavior of the system presents no anomaly compared to the behavior below limit conditions. However, conditions beyond limit conditions need not be considered when it can be shown that the airplane has design features that will not allow it to exceed those limit conditions.

(3) The airplane must meet the aeroelastic stability requirements of § 25.629.

(b) *System in the failure condition.*

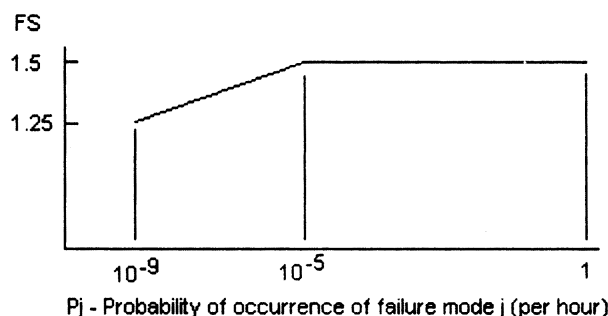
For any system failure condition not shown to be extremely improbable, the following apply:

(1) *At the time of occurrence.* Starting from 1-g level flight conditions, a realistic scenario, including pilot corrective actions, must be established to determine the loads occurring at the time of failure and immediately after failure.

(i) For static strength substantiation, these loads multiplied by an appropriate factor of safety that is related to the probability of occurrence of the failure are ultimate loads to be considered for design. The factor of safety (FS) is defined in Figure 1.

Figure 1

### Factor of safety at the time of occurrence



(ii) For residual strength substantiation, the airplane must be able to withstand two thirds of the ultimate loads defined in paragraph (b)(1)(i) above.

(iii) Freedom from aeroelastic instability must be shown up to the speeds defined in § 25.629(b)(2). For failure conditions that result in speed increases beyond  $V_c/M_c$ , freedom from aeroelastic instability must be shown to increased speeds, so that the margins intended by § 25.629(b)(2) are maintained.

(iv) Failures of the system that result in forced structural vibrations (oscillatory failures) must not produce

loads that could result in detrimental deformation of primary structure.

(2) *For the continuation of the flight.* For the airplane in the system failed state and considering any appropriate reconfiguration and flight limitations, the following apply:

(i) The loads derived from the following conditions at speeds up to  $V_c$ , or the speed limitation prescribed for the remainder of the flight, must be determined:

(A) The limit symmetrical maneuvering conditions specified §§ 25.331 and 25.345.

(B) The limit gust and turbulence conditions specified in §§ 25.341 and 25.345.

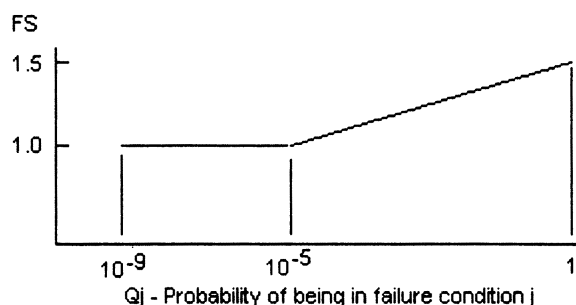
(C) The limit rolling conditions specified in § 25.349, and the limit unsymmetrical conditions specified in § 25.367 and § 25.427(b) and (c).

(D) The limit yaw maneuvering conditions specified in § 25.351.

(E) The limit ground loading conditions specified in §§ 2.473 and 25.491.

(ii) For static strength substantiation, each part of the structure must be able to withstand the loads defined in paragraph (2)(i) above, multiplied by a factor of safety depending on the probability of being in this failure state. the factor of safety is defined in Figure 2.

Figure 2  
Factor of safety for continuation of flight



$Q_j = (T_j)(P_j)$  where:

$T_j$  = Average time spent in failure condition  $j$  (in hours).

$P_j$  = Probability of occurrence of failure mode  $j$  (per hour).

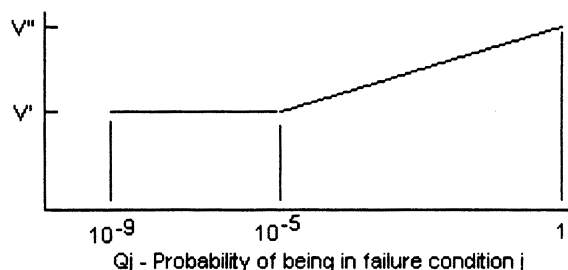
**Note:** If  $P_j$  is greater than  $10^{-3}$  per flight hour, then a 1.5 factor of safety must be applied to all limit load conditions specified in subpart C.

(iii) For residual strength substantiation, the airplane must be able to withstand two thirds of the ultimate loads defined in paragraph (2)(ii) above.

(iv) If the loads induced by the failure condition have a significant effect on fatigue or damage tolerance, then their effects must be taken into account.

(v) Freedom from aeroelastic instability must be shown up to a speed determined from Figure 3. Flutter clearance speeds  $V^I$  and  $V^{II}$  may be based on the speed limitation specified for the remainder of the flight using the margins defined by § 25.629(b).

Figure 3  
Clearance speed



$V^I$  = Clearance speed as defined by § 25.629(b)(2).

$V^{II}$  = Clearance speed as defined by § 25.629(b)(1).

$Q_j = (T_j)(P_j)$  where:

$T_j$  = Average time spent in failure condition  $j$  (in hours).

$P_j$  = Probability of occurrence of failure mode  $j$  (per hour).

**Note:** (If  $P_j$  is greater than  $10^{-3}$  per flight hour, then the flutter clearance speed must not be less than  $V^{II}$ .)

(vi) Freedom from aeroelastic instability must also be shown up to  $V^I$  in Figure 3 above for any probable system failure condition combined with any damage required or selected for investigation by § 25.571(b).

(3) Consideration of certain failure conditions may be required by other sections of part 25, regardless of calculated system reliability. Where analysis shows the probability of these failure conditions to be less than  $10^{-9}$ ,

criteria other than those specified in this paragraph may be used for structural substantiation to show continued safe flight and landing.

(c) *Warning considerations.* For system failure detection and warning, the following apply:

(1) The system must be checked for failure conditions, not extremely improbable, that degrade the structural capability below the level required by part 25, or significantly reduce the reliability of the remaining system. The flightcrew must be made aware of these failures before flight. Certain elements of the control system, such as mechanical and hydraulic components, may use special periodic inspections, and electronic components may use daily checks, in lieu of warning systems, to achieve the objective of this requirement. These certification maintenance requirements must be limited to components that are not

readily detectable by normal warning systems and where service history shows that inspections will provide an adequate level of safety.

(2) The existence of any failure condition, not extremely improbable, during flight that could significantly affect the structural capability of the airplane, and for which the associated reduction in airworthiness can be minimized by suitable flight limitations, must be signaled to flightcrew. For example, failure conditions that result in a factor of safety between the airplane strength and the loads of subpart C below 1.25, or flutter margins below  $V^{II}$ , must be signaled to the crew during flight.

(d) *Dispatch with known failure conditions.* If the airplane is to be dispatched in a known system failure condition that affects structural performance, or affects the reliability of the remaining system to maintain

structural performance, then the provisions of these special conditions must be met for the dispatched condition and for subsequent failures. Flight limitations and expected operational limitations may be taken into account in establishing Qj as the combined probability of being in the dispatched failure condition and the subsequent failure condition for the safety margins in Figures 2 and 3. These limitations must be such that the probability of being in this combined failure state and then subsequently encountering limit load conditions is extremely improbable. No reduction in these safety margins is allowed if the subsequent system failure rate is greater than  $10^{-3}$  per hour.

Issued in Renton, Washington, on March 29, 2004.

**Ali Bahrami,**

*Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.*

[FR Doc. 04-7877 Filed 4-6-04; 8:45 am]

BILLING CODE 4910-13-M

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. 2003-NM-47-AD; Amendment 39-13566; AD 2004-07-22]

RIN 2120-AA64

#### Airworthiness Directives; Boeing Model 747 Series Airplanes

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Final rule.

**SUMMARY:** This amendment supersedes two existing airworthiness directives (ADs), applicable to all Boeing Model 747 series airplanes, that currently require that the FAA-approved maintenance inspection program be revised to include inspections that will give no less than the required damage tolerance rating for each structural significant item, and repair of cracked structure. Those ADs were prompted by a structural re-evaluation that identified additional structural elements where, if damage were to occur, supplemental inspections may be required for timely detection of fatigue cracking. This amendment requires additional and expanded inspections, and repair of cracked structure. This action also expands the applicability of the existing ADs to include additional airplanes. The actions specified by this AD are intended to ensure the continued structural integrity of the entire fleet of

Model 747 series airplanes. This action is intended to address the identified unsafe condition.

**DATES:** Effective May 12, 2004.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of May 12, 2004.

The incorporation by reference of certain other publications, as listed in the regulations, was approved previously by the Director of the Federal Register as of September 12, 1994 (59 FR 41233, August 11, 1994) and August 10, 1994 (59 FR 37933, July 26, 1994).

**ADDRESSES:** The service information referenced in this AD may be obtained from Boeing Commercial Airplane Group, P.O. Box 3707, Seattle, Washington 98124-2207. This information may be examined at the FAA, 1601 Lind Avenue, SW., Renton, Washington; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

#### FOR FURTHER INFORMATION CONTACT:

Tamara L. Anderson, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Transport Airplane Directorate, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 917-6421; fax (425) 917-6590.

**SUPPLEMENTARY INFORMATION:** A notice of proposed rulemaking (NPRM) to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) by superseding AD 94-15-12, amendment 39-8983 (59 FR 37933, July 26, 1994), and AD 94-15-18, amendment 39-8989 (59 FR 41233, August 11, 1994), which are applicable to certain Boeing Model 747 series airplanes, was published in the *Federal Register* on March 12, 2003 (68 FR 11764). The NPRM proposed to continue to require that the FAA-approved maintenance inspection program be revised to include inspections that will give no less than the required damage tolerance rating (DTR) for each structural significant item, and repair of cracked structure. The NPRM also proposed to require additional and expanded inspections, and repair of cracked structure. Additionally, the NPRM also proposed to expand the applicability of the existing ADs to include additional airplanes.

#### Definitions

For the purposes of the discussions following in the "Comments" section of this AD, references to Boeing Document No. D6-35022, "Supplemental Structural Inspection Document," (SSID) for Model 747 Airplanes,

Revision G, dated December 2000, are referred to as "Revision G."

#### Comments

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comments received.

#### Requests To Allow Training Flights Equivalent

Two commenters request that two training flights be considered equivalent to one revenue flight for all Structural Significant Items (SSIs), except SSIs F-46, F-49, F-50, F-51, W-3, S-1, S-2, and E-1 through E-10. One of the commenters, the manufacturer, states that analyses show that for all SSIs, except for the above excluded SSIs, fatigue damage accumulated during a touch-and-go training flight conducted at less than 2.0 pounds per square inch (psi) internal cabin pressure is significantly less than half of the fatigue damage accumulated on a typical revenue flight.

The FAA does not concur with the commenters' request. In this case, we do not consider it appropriate to include various provisions in an AD applicable to a unique use of an affected airplane. We have determined that for clarity of the final rule, such a request is best evaluated through submitting a request for alternative methods of compliance as provided for in paragraph (h)(1) of this AD.

#### Request To Extend the Repetitive Intervals

One commenter, an operator, notes that paragraph (c) of the NPRM does not allow the provisions to increase task repetitive intervals by 10%, as specified in paragraph 5.1.8 of Revision G. The commenter requests that such provisions be allowed to accommodate unanticipated scheduling requirements similar to the provisions allowed in the Corrosion Prevention and Control Program (CPCP) required by AD 90-25-05, amendment 39-6790, (55 FR 49268, November 27, 1990).

We do not agree that the repetitive inspection interval may be increased up to 10% without further evaluation. Any unsubstantiated increases in the task repetitive intervals may not maintain the level of safety this AD requires. The task repetitive intervals in Revision G are based on the assumption that the entire Boeing Model 747 fleet is inspected at a minimum with the required DTR prescribed in the document. Therefore, any unsubstantiated increases in the task repetitive intervals will lower the