**Federal Register** on July 7, 2009. It has come to the attention of the FDIC that the July 20 re-publication failed to include one further correction. This publication will rectify that oversight.

The correction included in this **Federal Register** document corrects an error in the prior publication which caused an apparent inconsistency in the effective date.

In the the final rule, FR Doc. No. 2009–17009 published on July 20, 2009 (74 FR 35726), make the following correction:

On page 35744, the first sentence of the V. Effective and Compliance Dates section is corrected to read:

Except as noted below, the final rule is effective August 6, 2009.

Federal Deposit Insurance Corporation.

**Valerie J. Best,**

*Assistant Executive Secretary.*

[FR Doc. E9–19259 Filed 8–11–09; 8:45 am]

**BILLING CODE 6714–01–P**

## DEPARTMENT OF TRANSPORTATION

## Federal Aviation Administration

## 14 CFR Part 25

**[Docket No. NM400; Special Conditions No. 25–388–SC]**

## Special Conditions: Boeing Model 747–8/–8F Airplanes; Interaction of Systems and Structures

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

**ACTION:** Final special conditions.

**SUMMARY:** These special conditions are issued for the Boeing Model 747–8/–8F airplanes. These airplanes will have a novel or unusual design feature(s) that will affect structural performance. 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:** *Effective Date:* September 11, 2009.

**FOR FURTHER INFORMATION CONTACT:** Mark Freisthler, FAA, Airframe & Cabin Safety Branch, ANM–115, Transport Airplane Directorate, Aircraft Certification Service, 1601 Lind Avenue, SW., Renton, Washington 98057–3356; telephone (425) 227–1119; facsimile (425) 227–1149.

**SUPPLEMENTARY INFORMATION:**

### Background

On November 4, 2005, The Boeing Company, PO Box 3707, Seattle, WA 98124, applied for an amendment to Type Certificate Number A20WE to include the new Model 747–8 passenger airplane and the new Model 747–8F freighter airplane. The Model 747–8 and the Model 747–8F are derivatives of the 747–400 and the 747–400F, respectively. Both the Model 747–8 and the Model 747–8F are four-engine jet transport airplanes that will have a maximum takeoff weight of 970,000 pounds and new General Electric GEnx–2B67 engines. The Model 747–8 will have two flight crew and the capacity to carry 660 passengers. The Model 747–8F will have two flight crew and a zero passenger capacity, although Boeing has submitted a petition for exemption to allow the carriage of supernumeraries.

### Type Certification Basis

Under the provisions of Title 14 Code of Federal Regulations (14 CFR) 21.101, Boeing must show that the Model 747–8 and 747–8F airplanes (hereafter referred to as the 747–8/–8F) as changed, continue to meet the applicable provisions of 14 CFR part 25, as amended by Amendments 25–1 through 25–117, except for earlier amendments as agreed upon by the FAA. These regulations will be incorporated into Type Certificate No. A20WE after type certification approval of the 747–8/–8F.

If the Administrator finds that the applicable airworthiness regulations (*i.e.*, part 25) do not contain adequate or appropriate safety standards for the 747–8/–8F because of a novel or unusual design feature, special conditions are prescribed under the provisions of § 21.16.

In addition to the applicable airworthiness regulations and special conditions, the 747–8/–8F 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 under § 11.38, and become part of the type certification basis under § 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 § 21.101.

### Novel or Unusual Design Features

The Boeing Model 747–8/–8F is equipped with systems that affect the airplane's structural performance, either directly or as a result of failure or malfunction. That is, the airplane's systems affect how it responds in maneuver and gust conditions, and thereby affect its structural capability. These systems may also affect the aeroelastic stability of the airplane. Such systems represent a novel and unusual feature when compared to the technology envisioned in the current airworthiness standards. A special condition is needed to require consideration of the effects of systems on the structural capability and aeroelastic stability of the airplane, both in the normal and in the failed state.

These special conditions require that the airplane meet the structural requirements of subparts C and D of 14 CFR part 25 when the airplane systems are fully operative. These special conditions also require that the airplane meet these requirements considering failure conditions. In some cases, reduced margins are allowed for failure conditions based on system reliability.

### Discussion of Comments

Notice of proposed special conditions No. 25–09–03–SC for the Boeing Model 747–8 and 747–8F airplanes was published in the **Federal Register** on April 8, 2009 (74 FR 15888). No comments were received and the special conditions are adopted as proposed.

### Applicability

As discussed above, these special conditions are applicable to Boeing Model 747–8/–8F airplanes. Should Boeing apply at a later date for a change to the type certificate to include another model incorporating the same novel or unusual design features, the special conditions would apply to that model as well.

### Conclusion

This action affects only certain novel or unusual design features of the Boeing Model 747–8/–8F airplanes. It is not a rule of general applicability.

### 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 Special Conditions**

*A. General*

The Boeing Model 747–8/8F airplane is equipped with automatic control systems that affect the airplane's 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, fuel management systems, and other systems that either directly or as a result of failure or malfunction affect structural performance. If these special conditions are used for other systems, it may be necessary to adapt the criteria to the specific system.

1. The criteria defined here 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 structural elements 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 mode are not provided in this special condition.

2. Depending on the specific characteristics of the airplane, additional studies may be required that go beyond the criteria provided in these special conditions 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.

3. The following definitions are applicable to these special conditions.

(a) *Structural performance:* Capability of the airplane to meet the structural requirements of part 25.

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

(c) *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 (MMEL) limitations).

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

(e) *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, change the response of the airplane to inputs such as gusts or pilot actions, or lower flutter margins). The system failure condition includes consequential or cascading effects resulting from the first failure.

*B. Effects of Systems on Structures*

1. General. The following criteria will be used in determining the influence of a system and its failure conditions on the airplane structural elements.

2. System fully operative. With the system fully operative, the following apply:

(a) Limit loads must be derived in all normal operating configurations of the system from all the limit conditions specified in subpart C (or used in lieu of those 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.

(b) The airplane must meet the strength requirements of part 25 (*i.e.*, 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.

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

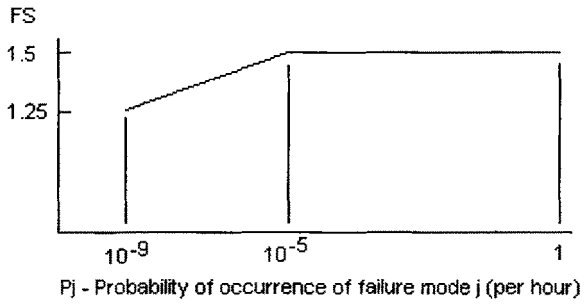
3. System in the failure condition. For any system failure condition not shown to be extremely improbable, the following apply:

(a) At the time of occurrence, starting from 1g 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.

(1) 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 (F.S.) is defined in Figure 1.

Figure 1

factor of safety at the time of occurrence




(2) For residual strength substantiation, the airplane must be able to withstand two thirds of the ultimate loads defined in subparagraph 3(a)(1). For pressurized cabins, these loads must be combined with the normal operating differential pressure.

(3) Freedom from aeroelastic instability must be shown up to the speeds defined in § 25.629(b)(2). For failure conditions that result in speeds 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.

(4) Failures of the system that result in forced structural vibrations (oscillatory failures) must not produce loads that could result in detrimental deformation of the affected structural elements.

(b) For continuation of flight, for an airplane in the system failed state and considering any appropriate reconfiguration and flight limitations, the following apply:

(1) The loads derived from the following conditions (or used in lieu of the following conditions) at speeds up to $V_C/M_C$, or the speed limitation prescribed for the remainder of the flight, must be determined:

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

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

(iii) The limit rolling conditions specified in § 25.349 and the limit asymmetrical conditions specified in §§ 25.367 and 25.427(b) and (c).

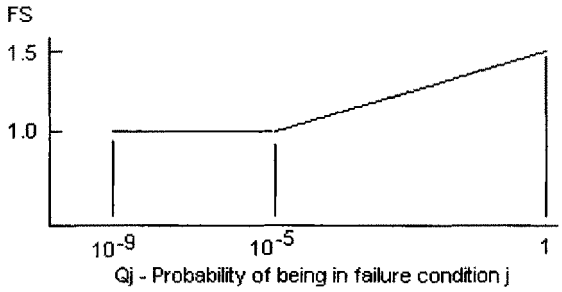
(iv) The limit yaw maneuvering conditions specified in § 25.351.

(v) The limit ground loading conditions specified in §§ 25.473, 25.491 and 25.493.

(2) For static strength substantiation, each part of the structure must be able to withstand the loads in paragraph (3)(b)(1) of this special condition 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.

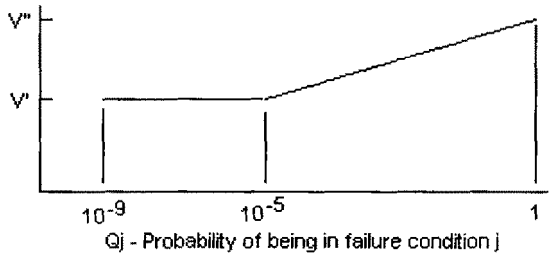
(3) For residual strength substantiation, the airplane must be able to withstand two thirds of the ultimate loads defined in paragraph (3)(b)(1) of this special condition. For pressurized cabins, these loads must be combined with the normal operating differential pressure.

(4) 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.

(5) Freedom from aeroelastic instability must be shown up to a speed determined from Figure 3. Flutter clearance speeds V′ and V″ 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′ = Clearance speed as defined by § 25.629(b)(2).
V″ = 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″.

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

4. Failure indications. For system failure detection and indication, the following apply:

(a) 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. As far as reasonably practicable, the flight crew 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 detection and indication systems to achieve the objective of this requirement. These Certification Maintenance Requirements (CMRs) must be limited to components that are not readily detectable by normal detection and indication systems and where service history shows that inspections will provide an adequate level of safety.

(b) 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 the flight crew. 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″, must be signaled to the crew during flight.

5. 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 this special condition must be met, including the provisions of paragraph 2 for the dispatched condition, and paragraph 3 for subsequent failures. Expected operational limitations may be taken into account in establishing Pj as the probability of failure occurrence for determining the safety margin in Figure 1. 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 July 29, 2009.

**Ali Bahrami,**

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

[FR Doc. E9–19246 Filed 8–11–09; 8:45 am]

**BILLING CODE 4910–13–P**

## DEPARTMENT OF TRANSPORTATION

## Federal Aviation Administration

## 14 CFR Part 25

**[Docket No. NM399; Special Conditions No. 25–387–SC]**

## Special Conditions: Boeing Model 747–8/–8F Airplanes; Additional Airframe Structural Design Requirements Related to Sudden Engine Stoppage Due to Fan Blade Failures

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

**ACTION:** Final special conditions.

**SUMMARY:** These special conditions are issued for Boeing Model 747–8/–8F airplanes. These airplanes will have a novel or unusual design feature(s) associated with an increased engine size when compared to previous model airplanes. These larger engines with larger bypass fans are capable of producing higher and more complex dynamic loads than previously experienced in older designs. 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:** *Effective Date:* September 11, 2009.

**FOR FURTHER INFORMATION CONTACT:** Mark Freisthler, FAA, Airframe & Cabin