

flight and landing of the airplane. Effective measures against the effects of exposure to HIRF must be provided by the design and installation of these systems. The accepted maximum energy levels in which civilian airplane system installations must be capable of operating safely are based on surveys and analysis of existing radio frequency emitters. These special conditions require that the airplane be evaluated under these energy levels for the protection of the electronic system and its associated wiring harness. These external threat levels, which are lower than previous required values, are believed to represent the worst case to which an airplane would be exposed in the operating environment.

These special conditions require qualification of systems that perform critical functions, as installed in aircraft, to the defined HIRF environment in paragraph 1 or, as an option to a fixed value using laboratory tests, in paragraph 2, as follows:

(1) The applicant may demonstrate that the operation and operational capability of the installed electrical and electronic systems that perform critical functions are not adversely affected when the aircraft is exposed to the HIRF environment defined below:

FIELD STRENGTH VOLTS/METER

Frequency	Peak	Average
10–100 KHz	50	50
100–500	60	60
500–2000	70	70
2–30 MHz	200	200
30–70	30	30
70–100	30	30
100–200	150	33
200–400	70	70
400–700	4020	935
700–1000	1700	170
1–2 GHz	5000	990
2–4	6680	840
4–6	6850	310
6–8	3600	670
8–12	3500	1270
12–18	3500	360
18–40	2100	750

or,

(2) The applicant may demonstrate by a system test and analysis that the electrical and electronic systems that perform critical functions can withstand a minimum threat of 100 volts per meter, peak electrical field strength, from 10 KHz to 18 GHz. When using this test to show compliance with the HIRF requirements, no credit is given for signal attenuation due to installation.

A preliminary hazard analysis must be performed by the applicant, for approval by the FAA, to identify electrical and/or electronic systems that perform critical functions. The term "critical" means those functions whose

failure would contribute to, or cause, a failure condition that would prevent the continued safe flight and landing of the airplane. The systems identified by the hazard analysis that perform critical functions are candidates for the application of HIRF requirements. A system may perform both critical and non-critical functions. Primary electronic flight display systems, and their associated components, perform critical functions such as attitude, altitude, and airspeed indication. The HIRF requirements apply only to critical functions.

Compliance with HIRF requirements may be demonstrated by tests, analysis, models, similarly with existing systems, or any combination of these. Service experience alone is not acceptable since normal flight operations may not include an exposure to the HIRF environment. Reliance on a system with similar design features for redundancy as a means of protection against the effects of external HIRF is generally insufficient since all elements of a redundant system are likely to be exposed to the fields concurrently.

Conclusion

In view of the design features discussed for the Twin Commander Model 695 Airplane, the following special conditions are issued. This action is not a rule of general applicability and affects only those applicants who apply to the FAA for approval of these features on these airplanes.

The substance of these special conditions has been subject to the notice and public comment procedure in several prior rulemaking actions. For example, the Dornier 228–200 (53 FR 14782, April 26, 1988), the Cessna Model 525 (56 FR 49396, September 30, 1991), and the Beech Model 200, A200, and B200 airplanes (57 FR 1220, January 13, 1992). It is unlikely that additional public comment would result in any significant change from those special conditions already issued and commented on. For these reasons, and because a delay would significantly affect the applicant's installation of the system and certification of the airplane, which is imminent, the FAA has determined that prior public notice and comment are unnecessary and impracticable, and good cause exists for adopting these special conditions without notice. Therefore, these special conditions are being made effective upon publication in the **Federal Register**. However, as previously indicated, interested persons are invited to comment on these special conditions if they so desire.

List of Subjects in 14 CFR Part 23

Aircraft, Aviation safety, Signs and symbols

Citation

The authority citation for these special conditions is as follows:

Authority: Secs. 313(a), 601, and 603 of the Federal Aviation Act of 1958; as amended (49 U.S.C. 1354(a), 1421, and 1423); 49 U.S.C. 106(g); 14 CFR 21.16 and 21.101; and 14 CFR 11.28 and 11.49.

Adoption of 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 modified Twin Commander Model 695 airplane:

1. *Protection of Electrical and Electronic Systems from High Intensity Radiated Fields (HIRF).* Each system that performs critical functions must be designed and installed to ensure that the operations, and operational capabilities of these systems to perform critical functions, are not adversely affected when the airplane is exposed to high intensity radiated electromagnetic fields external to the airplane.

2. For the purpose of these special conditions, the following definition applies: *Critical Functions:* Functions whose failure would contribute to, or cause, a failure condition that would prevent the continued safe flight and landing of the airplane.

Issued in Kansas City, Missouri on June 1, 1995.

Henry A. Armstrong

Acting Manager, Small Airplane Directorate, Aircraft Certification Service.

[FR Doc. 95-15889 Filed 6-27-95; 8:45 am]

BILLING CODE 4910-13-M

14 CFR Part 39

[Docket No. 94-NM-252-AD; Amendment 39-9285; AD 95-13-05]

Airworthiness Directives; Boeing Model 747 Series Airplanes Equipped with Rolls Royce Model RB211 Series Engines

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD), applicable to certain Boeing Model 747 series airplanes, that requires modification of the nacelle strut and wing structure, inspections and checks to detect discrepancies, and correction of discrepancies. This amendment is

prompted by the development of a modification of the strut and wing structure that improves the damage tolerance capability and durability of the strut-to-wing attachments, and reduces reliance on inspections of those attachments. The actions specified by this AD are intended to prevent failure of the strut and subsequent loss of the engine.

DATES: Effective July 28, 1995.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of July 28, 1995.

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 Federal Aviation Administration (FAA), Transport Airplane Directorate, Rules Docket, 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: Tim Backman, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Transport Airplane Directorate, Seattle Aircraft Certification Office, 1601 Lind Avenue SW., Renton, Washington 98055-4056; telephone (206) 227-2776; fax (206) 227-1181.

SUPPLEMENTARY INFORMATION: A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an airworthiness directive (AD) that is applicable to certain Boeing Model 747 series airplanes was published in the **Federal Register** on February 7, 1995 (60 FR 7140). That action proposed to require modification of the nacelle strut and wing structure, inspections and checks to detect discrepancies in the adjacent structure, and correction of discrepancies.

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

Two commenters support the proposed rule.

Revision of Descriptive Language

One commenter notes that the description of the unsafe condition that appeared in the Discussion section of the preamble to the notice refers to "the structural fail-safe capability of the strut-to-wing attachment." The commenter states that this description is inaccurate, since it implies that the strut-to-wing attachment is inadequate. The commenter suggests that a more

accurate description would be "damage tolerance capability of the strut-to-wing attachment." The FAA acknowledges that the commenter's wording is more accurate. The pertinent wording in the preamble to the final rule has been revised to reflect this change. Furthermore, the FAA considers the new structure of the strut as meeting the damage tolerance requirements of amendment 45 of section 25.571, "Damage—tolerance and fatigue evaluation of structure of the Federal Aviation Regulations (14 CFR 25.571, amendment 45), which provides an even higher level of safety than simply fail-safe requirements.

This same commenter provides additional information to describe the purpose of the proposed modification of the nacelle strut and wing structure. This commenter suggests that the rule should specify that the modification not only significantly improves the load-carrying and durability of the strut-to-wing attachments, but "reduces the reliance on non-routine inspections," as well. The FAA concurs with this suggestion and has revised the Summary section of the preamble to this final rule to include wording relevant to this aspect.

This commenter also provides further clarification of the description of the requirements of the existing AD's that address unsafe conditions associated with the strut attachment assemblies on Model 747 series airplanes equipped with Rolls Royce Model RB211 series engines. The description in the Discussion section of the preamble to the proposal states that the existing AD's require "sections of the strut, and strut-to-wing attachment structure." The commenter states that a more complete description of the existing AD's would be "inspections of the strut fuse pins, and strut-to-wing attachment structure." The FAA concurs that the commenter's wording is clearer. However, the following provides a more complete description: The existing AD's require "inspections of the diagonal brace and midspar fuse pins, and strut-to-wing attachment structure." Since the Discussion section is not restated in this final rule, no change to the final rule is necessary.

AD's Terminated by this Final Rule

Additionally, this commenter requests a revision of proposed paragraph (c), which lists the AD's that will be terminated upon accomplishment of the proposed modification of the nacelle strut and wing structure. The commenter states that since AD 79-17-07, amendment 39-3533, is not applicable to Model 747

series airplanes equipped with Rolls Royce Model RB211 series engines, that AD should be removed from the list. The FAA concurs; paragraph (c) of the final rule has been revised accordingly.

Conclusion

After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule with the changes previously described. The FAA has determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

Cost Estimate

Currently, there are no Model 747 series airplanes of the affected design, equipped with Rolls Royce Model RB211 series engines, on the U.S. Register. However, should an affected airplane be imported and placed on the U.S. Register in the future, it will require approximately 6,545 work hours to accomplish the required actions, at an average labor charge of \$60 per work hour. The manufacturer will incur the cost of labor, on a pro-rated basis, with 20 years being the expected life of these airplanes. The median age for the fleet of Model 747 series airplanes equipped with Rolls Royce Model RB211 series engines is estimated to be 6 years. Required parts will be supplied by the manufacturer at no cost to operators. Based on these figures, the total cost impact of this AD will be \$117,810 per airplane.

This cost impact figure does not reflect the cost of the terminating actions described in the service bulletins listed in paragraph I.C., Table 2, "Prior or Concurrent Service Bulletins," on page 5 of Boeing Alert Service Bulletin 747-54A2157, dated January 12, 1995, that are required to be accomplished prior to, or concurrently with, the modification of the nacelle strut and wing structure. Since some operators may have accomplished certain modifications on some or all of the airplanes in its fleet, while other operators may not have accomplished any of the modifications on any of the airplanes in its fleet, the FAA is unable to provide a reasonable estimate of the cost of accomplishing the terminating actions described in the service bulletins listed in Table 2 of the Boeing alert service bulletin.

The cost impact figure discussed above is based on assumptions that no operator has yet accomplished any of the requirements of this AD action, and that no operator would accomplish

those actions in the future if this AD were not adopted.

The FAA recognizes that the obligation to maintain aircraft in an airworthy condition is vital, but sometimes expensive. Because AD's require specific actions to address specific unsafe conditions, they appear to impose costs that would not otherwise be borne by operators. However, because of the general obligation of operators to maintain aircraft in an airworthy condition, this appearance is deceptive. Attributing these costs solely to the issuance of this AD is unrealistic because, in the interest of maintaining safe aircraft, prudent operators would accomplish the required actions even if they were not required to do so by the AD.

A full cost-benefit analysis has not been accomplished for this AD. As a matter of law, in order to be airworthy, an aircraft must conform to its type design and be in a condition for safe operation. The type design is approved only after the FAA makes a determination that it complies with all applicable airworthiness requirements. In adopting and maintaining those requirements, the FAA has already made the determination that they establish a level of safety that is cost-beneficial. When the FAA, as in this AD action, makes a finding of an unsafe condition, this means that the original cost-beneficial level of safety is no longer being achieved and that the required actions are necessary to restore that level of safety. Because this level of safety has already been determined to be cost-beneficial, a full cost-benefit analysis for this AD would be redundant and unnecessary.

Regulatory Impact

The regulations adopted herein will not have substantial direct effects 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. Therefore, in accordance with Executive Order 12612, it is determined that this final rule does not have sufficient federalism

implications to warrant the preparation of a Federalism Assessment.

For the reasons discussed above, I certify that this action (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); 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. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained from the Rules Docket at the location provided under the caption **ADDRESSES**.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (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. App. 1354(a), 1421 and 1423; 49 U.S.C. 106(g); and 14 CFR 11.89.

§ 39.13 [Amended]

2. Section 39.13 is amended by adding the following new airworthiness directive:

95-13-05 Boeing: Amendment 39-9285. Docket 94-NM-252-AD.

Applicability: Model 747 series airplanes having line positions 292 through 1033 inclusive, equipped with Rolls Royce Model RB211 series engines; certificated in any category.

Note 1: This AD applies to each airplane identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For airplanes that have been modified, altered, or

repaired so that the performance of the requirements of this AD is affected, the owner/operator must use the authority provided in paragraph (d) of this AD to request approval from the FAA. This approval may address either no action, if the current configuration eliminates the unsafe condition; or different actions necessary to address the unsafe condition described in this AD. Such a request should include an assessment of the effect of the changed configuration on the unsafe condition addressed by this AD. In no case does the presence of any modification, alteration, or repair remove any airplane from the applicability of this AD.

Compliance: Required as indicated, unless accomplished previously.

To prevent failure of the strut and subsequent loss of the engine, accomplish the following:

(a) Accomplish the modification of the nacelle strut and wing structure in accordance with Boeing Alert Service Bulletin 747-54A2157, dated January 12, 1995, at the time specified in either paragraph (a)(1) or (a)(2) of this AD, as applicable. All of the terminating actions described in the service bulletins listed in paragraph I.C., Table 2, "Prior or Concurrent Service Bulletins," on page 5 of Boeing Alert Service Bulletin 747-54A2157, dated January 12, 1995, must be accomplished in accordance with those service bulletins prior to, or concurrently with, the accomplishment of the modification of the nacelle strut and wing structure required by this paragraph.

(1) For Model 747-400 series airplanes having line positions 705 through 1033 inclusive, equipped with Rolls Royce Model RB211-524G and H engines: Within 80 months after the effective date of this AD.

(2) For all other Model 747 series airplanes equipped with Rolls Royce Model RB211 series engines not subject to the requirements of paragraph (a)(1) of this AD: Within 56 months after the effective date of this AD.

(b) Perform the inspections and checks specified in paragraph III, NOTES 8, 9, and 13 of the Accomplishment Instructions on pages 109 and 110 of Boeing Alert Service Bulletin 747-54A2157, dated January 12, 1995, concurrently with the modification of the nacelle strut and wing structure required by paragraph (a) of this AD. Prior to further flight, correct any discrepancies found in accordance with the alert service bulletin.

(c) Accomplishment of the modification of the nacelle strut and wing structure in accordance with Boeing Alert Service Bulletin 747-54A2157, dated January 12, 1995, constitutes terminating action for the inspections required by the following AD's:

AD No.	Amend- ment No.	Federal Register citation	Date of publication
93-17-07	39-8678	58 FR 45827	Aug. 31, 1993.
93-03-14	39-8518	58 FR 14513	Mar. 18, 1993.
92-24-51	39-8439	57 FR 60118	Dec. 18, 1992.
90-20-20	39-6725	55 FR 37859	Sept. 14, 1990.
89-07-15	39-6167	54 FR 11693	Mar. 22, 1989

AD No.	Amend- ment No.	Federal Register citation	Date of publication
87-04-13 R1	39-5836	53 FR 2005	Jan. 26, 1988.
86-05-11 R1	39-5334	51 FR 21900	June 17, 1986.
86-23-01	39-5450	51 FR 37712	Oct. 26, 1986.

(d) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Seattle Aircraft Certification Office (ACO), FAA, Transport Airplane Directorate. Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Seattle ACO.

Note 2: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Seattle ACO.

(e) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be accomplished.

(f) The modification, inspections, checks, and correction of discrepancies shall be done in accordance with Boeing Alert Service Bulletin 747-54A2157, dated January 12, 1995. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Boeing Commercial Airplane Group, P.O. Box 3707, Seattle, Washington 98124-2207. Copies may be inspected at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

(g) This amendment becomes effective on August 28, 1995.

Issued in Renton, Washington, on June 16, 1995.

Darrell M. Pederson,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 95-15298 Filed 6-27-95; 8:45 am]

BILLING CODE 4910-13-M

14 CFR Part 39

[Docket No. 94-NM-208-AD; Amendment 39-9287; AD 95-13-07]

Airworthiness Directives; Boeing Model 747 Series Airplanes Equipped with General Electric Model CF6-45 or -50 Series Engines, or Pratt & Whitney Model JT9D-70 Series Engines

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD), applicable to certain Boeing Model 747 series airplanes, that requires modification of the nacelle strut and wing structure, inspections and checks to detect discrepancies, and correction of discrepancies. This amendment is prompted by the development of a modification of the strut and wing structure that improves the damage tolerance capability and durability of the strut-to-wing attachments, and reduces reliance on non-routine inspections of those attachments. The actions specified by this AD are intended to prevent failure of the strut and subsequent loss of the engine.

DATES: Effective July 28, 1995.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the **Federal Register** as of July 28, 1995.

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 Federal Aviation Administration (FAA), Transport Airplane Directorate, Rules Docket, 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: Tim Backman, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Transport Airplane Directorate, Seattle Aircraft Certification Office, 1601 Lind Avenue SW., Renton, Washington 98055-4056; telephone (206) 227-2776; fax (206) 227-1181.

SUPPLEMENTARY INFORMATION: A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an airworthiness directive (AD) that is applicable to certain Boeing Model 747 series airplanes was published in the Federal Register on January 3, 1995 (60 FR 66). That action proposed to require modification of the nacelle strut and wing structure, inspections and checks to detect discrepancies in the adjacent structure, and correction of discrepancies.

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

Two commenters support the proposed rule.

One commenter notes that the description of the unsafe condition that appeared in the Discussion section of the preamble to the notice refers to "the structural fail-safe capability of the strut-to-wing attachment." The commenter states that this description is inaccurate since it implies that the strut-to-wing attachment is inadequate. The commenter suggests that a more accurate description would be "damage tolerance capability of the strut-to-wing attachment." The FAA acknowledges that the commenter's wording is more accurate. The pertinent wording in the preamble to the final rule has been revised to reflect this change. Furthermore, the FAA considers that the new structure of the strut meets the damage tolerance requirements of amendment 45 of section 25.571, "Damage-tolerance and fatigue evaluation of structure," of the Federal Aviation Regulations (14 CFR 25.571, amendment 45), which provides an even higher level of safety than simply fail-safe requirements.

This same commenter provides further information to describe the purpose of the proposed modification of the nacelle strut and wing structure. This commenter suggests that the rule should specify that the modification not only significantly improves the load-carrying and durability of the strut-to-wing attachments, but "reduces the reliance on non-routine inspections," as well. The FAA concurs with this suggestion and has revised the Summary section of the preamble to the final rule to include relevant wording.

After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule with the changes previously described. The FAA has determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.