

Discussion of Comments

Notice of proposed special conditions No. 25-03-05-SC for the Embraer Model ERJ-170 series airplane was published in the **Federal Register** on June 16, 2003 (68 FR 35612). No comments were received, and these special conditions are adopted as proposed.

Applicability

As discussed above, these special conditions are applicable to the Embraer Model ERJ-170 series airplanes. Should Embraer apply later for a change to the type certificate to include another model incorporating the same novel or unusual design features, these special conditions would apply to that model as well under the provisions of § 21.101.

Under standard practice, the effective date of final special conditions would be 30 days after the date of publication in the **Federal Register**; however, as the certification date for the Embraer Model ERJ-170 series airplane is imminent, the FAA finds that good cause exists to make these special conditions effective upon issuance.

Conclusion

This action affects only certain novel or unusual design features on the Embraer Model ERJ-170 series airplanes. It is not a rule of general applicability, and it 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 Special Conditions

■ Accordingly, the Federal Aviation Administration (FAA) issues the following special conditions as part of the type certification basis for Embraer Model ERJ-170 series airplanes.

Electronic Flight Controls (Command Signal Integrity)

In addition to compliance with §§ 25.671 and 25.672, the following requirements must be met:

(a) It must be shown that either the FBW flight control system signals cannot be altered unintentionally or that altered signal characteristics would meet the following criteria:

(1) Stable gain and phase margins are maintained for all control surface closed loop systems. Pilot control inputs (pilot

in the loop) are excluded from this requirement.

(2) Sufficient pitch, roll, and yaw control power is available to provide control for continued safe flight and landing, considering all the FBW flight control system signal malfunctions that are not extremely improbable.

(3) The effect of spurious signals on the systems which are included in the control surface loop must not result in unacceptable transients or degradation of the airplane's performance. Specifically, signals that would cause a significant uncommanded motion of a control surface actuator must be readily detected and deactivated, or the surface motion must be arrested by other means in a satisfactory manner. Small amplitude residual system oscillations may be acceptable.

(b) It must be demonstrated that the output from the control surface closed loop system does not result in uncommanded, sustained oscillations of flight control surfaces. The effects of minor instabilities may be acceptable, provided that they are thoroughly investigated, documented, and understood.

Issued in Renton, Washington, on October 6, 2003.

Ali Bahrami,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 99-NM-67-AD; Amendment 39-13334; AD 2003-20-16]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 747SP, 747SR, 747-100, 747-200, and 747-300 Series Airplanes; Equipped With Pratt & Whitney Model JT9D-3, -7, and -7Q Series Engines and Model JT9D-7R4G2 Engines

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment supersedes an existing airworthiness directive (AD), applicable to certain Boeing Model 747SP, 747SR, 747-100, 747-200, and 747-300 series airplanes, that currently requires repetitive operational tests of the reversible gearbox pneumatic drive unit (PDU) or the reversing air motor PDU to ensure that the unit can restrain

the thrust reverser sleeve, and correction of any discrepancy found. This amendment requires installation of a terminating modification, repetitive functional tests of that installation to detect discrepancies, and repair if necessary. This amendment also removes airplanes from the applicability and adds certain new requirements. The actions specified by this AD are intended to ensure the integrity of the fail-safe features of the thrust reverser system by preventing possible failure modes in the thrust reverser control system that can result in inadvertent deployment of a thrust reverser during flight. This action is intended to address the identified unsafe condition.

DATES: Effective November 18, 2003.

The incorporation by reference of certain publications, as listed in the regulations, is approved by the Director of the Federal Register as of November 18, 2003.

The incorporation by reference of a certain publication, as listed in the regulations, was approved previously by the Director of the Federal Register as of September 5, 1995 (60 FR 39631, August 3, 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:** Dan Kinney, Aerospace Engineer, Propulsion Branch, ANM-140S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 917-6499; fax (425) 917-6590.

SUPPLEMENTARY INFORMATION: A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) by superseding AD 95-16-02, amendment 39-9321 (60 FR 39631, August 3, 1995), which is applicable to certain Boeing Model 747SP, 747SR, 747-100, -200, and -300 series airplanes, was published as a supplemental Notice of Proposed Rulemaking (NPRM) in the **Federal Register** on May 1, 2003 (68 FR 23235). The action proposed to continue to require repetitive operational tests of the reversible gearbox pneumatic drive unit (PDU) or the reversing air motor PDU to ensure that the unit can restrain the thrust reverser sleeve, and correction of any discrepancy found. The action also