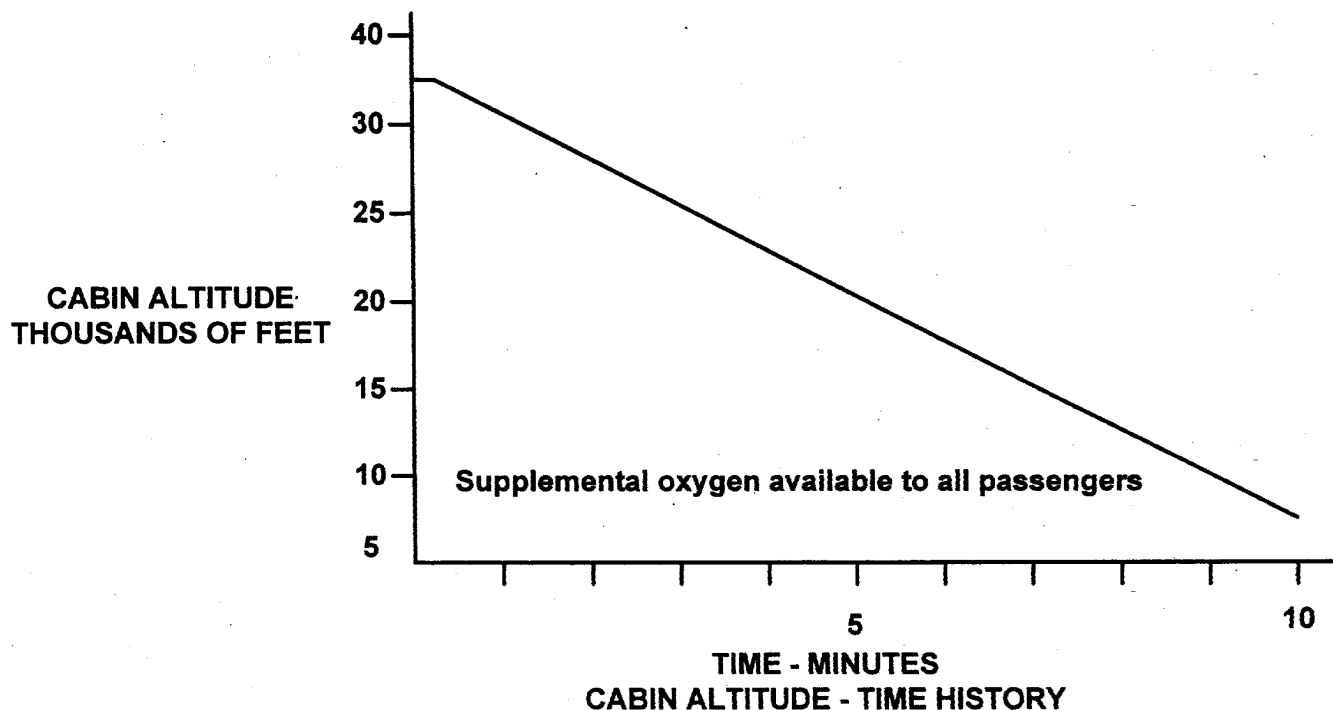


Figure 4



NOTE: For figure 4, time starts at the moment cabin altitude exceeds 8,000 feet during depressurization. If depressurization analysis shows that the cabin altitude limit of this curve is exceeded, the following alternate limitations apply: After depressurization, the maximum cabin altitude exceedence is limited to 40,000 feet. The maximum time the cabin altitude may exceed 25,000 feet is 2 minutes; time starting when the cabin altitude exceeds 25,000 feet and ending when it returns to 25,000 feet.

BILLING CODE 4910-13-C

Issued in Renton, Washington, on June 15, 1995.

Darrell M. Pederson,

*Acting Manager, Transport Airplane
Directorate, Aircraft Certification Service,
ANM-100.*

[FR Doc. 95-15890 Filed 6-27-95; 8:45 am]

BILLING CODE 4910-13-M

14 CFR Part 39**[Docket No. 95-NM-22-AD]****Airworthiness Directives; Boeing Model 747-100, -200, -300, and SP Series Airplanes****AGENCY:** Federal Aviation Administration, DOT.**ACTION:** Notice of proposed rulemaking (NPRM).

SUMMARY: This document proposes the adoption of a new airworthiness directive (AD) that is applicable to certain Boeing Model 747-100, -200, -300, and SP series airplanes. This proposal would require revising the Airplane Flight Manual (AFM) to prohibit the use of the autoland function. This proposed AD would also require installation of a diode and a marker on shelves, making wiring changes to the flight mode annunciator (FMA) of the autopilot/flight director system, which would terminate the requirements for the AFM revision; and follow-on operational tests. This proposal is prompted by a report indicating that, during a triple channel approach, the autoland system failed to flare a Model 747-200 series airplane for landing, which resulted in a hard landing. The actions specified by the proposed AD are intended to prevent failure of the autoland system to flare the airplane for landing, which could subsequently result in a hard landing.

DATES: Comments must be received by August 22, 1995.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), Transport Airplane Directorate, ANM-103, Attention: Rules Docket No. 95-NM-22-AD, 1601 Lind Avenue, SW., Renton, Washington 98055-4056. Comments may be inspected at this location between 9:00 a.m. and 3:00 p.m., Monday through Friday, except Federal holidays.

The service information referenced in the proposed rule may be obtained from Boeing Commercial Airplane Group, P.O. Box 3707, Seattle, Washington 98124-2207. This information may be examined at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington.

FOR FURTHER INFORMATION CONTACT: Hania Younis, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Transport Airplane Directorate, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (206) 227-2764; fax (206) 227-1181.

SUPPLEMENTARY INFORMATION:**Comments Invited**

Interested persons are invited to participate in the making of the proposed rule by submitting such written data, views, or arguments as they may desire. Communications shall identify the Rules Docket number and be submitted in triplicate to the address specified above. All communications received on or before the closing date for comments, specified above, will be considered before taking action on the proposed rule. The proposals contained in this notice may be changed in light of the comments received.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the proposed rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report summarizing each FAA-public contact concerned with the substance of this proposal will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 95-NM-22-AD." The postcard will be date stamped and returned to the commenter.

Availability of NPRMs

Any person may obtain a copy of this NPRM by submitting a request to the FAA, Transport Airplane Directorate, ANM-103, Attention: Rules Docket No. 95-NM-22-AD, 1601 Lind Avenue, SW., Renton, Washington 98055-4056.

Discussion

The FAA has received a report indicating that, during a triple channel approach, the autoland system failed to flare a Boeing Model 747-200 series airplane for landing, which resulted in a hard landing. Investigation revealed that the approach was initiated with an inoperative number 3 NAV receiver (thereby making the channel "C" autopilot inoperative). Investigation also revealed that a separate failure caused the channel "B" autopilot to automatically disengage at the start of the flare. This resulted in loss of the autopilot function due to the disagreement between channel "A" and channel "C."

The integrity of the autoland system depends on a fault annunciator system. An invalid discrete signal from the number 3 NAV receiver should cause

the glideslope (G/S) flag located on the P2 panel to illuminate. Along with this G/S flag on the P2 panel, the channel "C" autopilot system should have annunciated a steady amber autopilot warning light on the captain's and first officer's flight mode annunciator (FMA). This warning light would alert the flightcrew that the autopilot had changed from fail-operational to fail-passive mode. The subsequent dual channel autopilot failure should have been annunciated by a steady red warning light, warning the flightcrew that the autopilot had changed from fail-passive mode to complete autopilot disconnect.

Further investigation revealed that the autopilot warning light on the captain's and first officer's FMA did not illuminate during this dual channel fault incident. The cause of this lack of annunciation has been attributed to the faulty logic of the autopilot/flight director system.

This condition, if not corrected, could result in failure of the autoland system to flare the airplane for landing, which may result in a hard landing.

The FAA has reviewed and approved Boeing Alert Service Bulletin 747-22A2212, Revision 1, dated April 27, 1995, and Boeing Alert Service Bulletin 747-22A2213, Revision 1, dated April 27, 1995, which describe procedures for installing a diode and a marker on the E1-4, E1-5, and E1-6 shelves, and making wiring changes to the FMA of the autopilot/flight director system. These service bulletins also describe procedures for performing operational tests of the newly installed diodes. This installation and wiring change will ensure the illumination of a steady amber autopilot warning light on the captain's and the first officer's FMA's when a sensor fails after commencement of a triple autopilot approach.

The autopilot/flight director system installed on Boeing Model 747-200 series airplanes is similar in design to the autopilot/flight director system installed on Model 747-100, -300, and SP series airplanes; therefore, the FAA finds that Model 747-100, -300, and SP series airplanes are subject to the same unsafe condition identified in this proposal.

Since an unsafe condition has been identified that is likely to exist or develop on other products of this same type design, the proposed AD would require revising the Limitations Section of the FAA-approved Airplane Flight Manual (AFM) to prohibit the use of the LAND mode, if there is a flag on any channel. This proposed AD would also require installing a diode and a marker on certain shelves, and making wiring

changes to the FMA of the autopilot/flight director system, which would terminate the requirement for an AFM revision. Additionally, this proposed AD requires operational tests of the newly installed diodes. The installation, wiring changes, and operational tests would be required to be accomplished in accordance with the alert service bulletins described previously.

As a result of recent communications with the Air Transport Association (ATA) of America, the FAA has learned that, in general, some operators may misunderstand the legal effect of AD's on airplanes that are identified in the applicability provision of the AD, but that have been altered or repaired in the area addressed by the AD. The FAA points out that all airplanes identified in the applicability provision of an AD are legally subject to the AD. If an airplane has been altered or repaired in the affected area in such a way as to affect compliance with the AD, the owner or operator is required to obtain FAA approval for an alternative method of compliance with the AD, in accordance with the paragraph of each AD that provides for such approvals. A note has been included in this notice to clarify this long-standing requirement.

There are approximately 172 Model 747-100, -200, -300, and SP series airplanes of the affected design in the worldwide fleet. The FAA estimates that 11 airplanes of U.S. registry would be affected by this proposed AD, that it would take approximately 11 work hours per airplane to accomplish the proposed actions, and that the average labor rate is \$60 per work hour. Required parts would cost approximately \$613 per airplane. Based on these figures, the total cost impact of the proposed AD on U.S. operators is estimated to be \$14,003, or \$1,273 per airplane.

The total cost impact figure discussed above is based on assumptions that no operator has yet accomplished any of the proposed requirements of this AD action, and that no operator would accomplish those actions in the future if this AD were not adopted.

The regulations proposed herein would 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 proposal would not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

For the reasons discussed above, I certify that this proposed regulation (1)

is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) if promulgated, 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 copy of the draft regulatory evaluation prepared for this action is contained in the Rules Docket. A copy of it may be obtained by contacting the Rules Docket at the location provided under the caption **ADDRESSES**.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Safety.

The Proposed Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration proposes to amend 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:

Boeing: Docket 95-NM-22-AD.

Applicability: Model 747-100, -200, -300, and SP series airplanes, equipped with triple channel autoland autopilots; as listed in Boeing Alert Service Bulletin 747-22A2212, Revision 1, dated April 27, 1995, and Boeing Alert Service Bulletin 747-22A2213, Revision 1, dated April 27, 1995; 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 autoland system to flare the airplane for landing, which may result in a hard landing, accomplish the following:

(a) Within 3 months after the effective date of this AD, revise the Limitations Section of the FAA-approved Airplane Flight Manual (AFM) to include the following statement. This may be accomplished by inserting a copy of this AD in the AFM.

"Pay close attention to all 3 NAV receiver flags after FLARE ARM is annunciated on the FMA's. If there is a flag on ANY channel, the approach must be down-graded to dual channel, CAT II configuration, and the autopilot must be disconnected prior to landing."

(b) Within 18 months after the effective date of this AD, install a diode and a marker on the E1-4, E1-5, and E1-6 shelves, and make wiring changes to the flight mode annunciator of the autopilot/flight director system, in accordance with Boeing Alert Service Bulletin 747-22A2212, Revision 1, dated April 27, 1995, or Boeing Alert Service Bulletin 747-22A2213, Revision 1, dated April 27, 1995; as applicable. After this installation and wiring change is accomplished, the AFM revision required by paragraph (a) of this AD may be removed from the AFM.

(c) Prior to further flight after accomplishment of paragraph (b) of this AD, perform an operational test of the newly installed diodes, in accordance with Boeing Alert Service Bulletin 747-22A2212, Revision 1, dated April 27, 1995, or Boeing Alert Service Bulletin 747-22A2213, Revision 1, dated April 27, 1995; as applicable. Thereafter, repeat the operational test at intervals not to exceed 20,000 flight hours.

(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 §§ 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. Issued in Renton, Washington, on June 22, 1995.

James V. Devany,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.
[FR Doc. 95-15851 Filed 6-27-95; 8:45 am]

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