

**U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

Airworthiness Directive

90-15-06 BOEING: Amendment 39-6653. Docket No. 88-NM-194-AD.

Applicability: Model 747 series airplanes, production line numbers 001 through 200, certificated in any category.

Compliance: Required as indicated, unless previously accomplished.

To prevent depressurization resulting from cracks and/or corrosion in the fuselage skins, accomplish the following:

A. Accomplish either paragraph A.1. or A.2., below:

1. Within 1,000 landings after the effective date of this AD, and thereafter at intervals not to exceed 1,000 landings [2,000 landings from body station (BS) 1000 to BS 1480], conduct a detailed external visual inspection of the fuselage skin at the upper lobe skin lap joints for cracks and evidence of corrosion (bulging skin between fasteners, blistered paint, dished or popped rivet heads, or loose fasteners) in accordance with Boeing Service Bulletin 747-53-2307, dated December 21, 1989. If cracking or corrosion is detected during the visual inspection, prior to further flight, conduct a high frequency eddy current (HFEC) inspection for cracks in the skin at the upper row of fasteners of the affected skin panel lap joint, in accordance with the above mentioned Boeing service bulletin.

2. Within 1,000 landings after the effective date of this AD, and thereafter at the intervals specified below, conduct the following inspections at the upper lobe skin lap joints in accordance with Boeing Service Bulletin 747-53-2307, dated December 21, 1989.

a. Conduct a detailed visual inspection for cracks and evidence of corrosion (bulging skin between fasteners, blistered paint, dished fasteners, popped rivet heads, or loose fasteners) and repeat at intervals not to exceed 2,000 landings.

b. Conduct a HFEC inspection for cracks, in accordance with the above mentioned Boeing service bulletin, in the skin at the upper row of fasteners of the lap joints forward of BS 1000 and repeat at intervals not to exceed 4,000 landings.

c. Conduct a HFEC inspection for cracks, in accordance with the above mentioned Boeing service bulletin, in the skin at the upper row of fastener holes of the lap joints aft of BS 1480 and repeat at intervals not to exceed 6,000 landings.

B. Any cracks, or corrosion for which material loss exceeds 10 percent of the material thickness, which are detected during the inspections required by this AD must be repaired, prior to further flight, in accordance with Boeing Service Bulletin 747-53-2307, dated December 21, 1989. Terminating action, as described in the service bulletin, must be accomplished within 15 months after repair for the remainder of any skin panel lap joint in which cracks, or corrosion exceeding 10 percent of the material thickness, are found. Terminating action, as described in the service bulletin, must be accomplished within 30 months for any skin panel lap joint in which corrosion is found, but the corrosion does not exceed 10% of the material thickness, and no cracking is found; and HFEC inspection of the lap joint for cracks, as described in the service bulletin, must be accomplished at repetitive intervals of 500 landings until the terminating action is completed.

C. Within 14 days after the detection of cracks or corrosion when conducting the inspections required by this AD, submit a written report of findings to the Manager, Seattle Aircraft Certification Office, ANM-100S, FAA, Northwest Mountain Region, Transport Airplane Directorate, 17900 Pacific Highway South, C-68966, Seattle, Washington 98168. The report must contain the following information:

1. Serial number of the airplane inspected;

2. Total number of landings on the airplane inspected;
3. Number of landings since last inspected;
4. The location and dimensions of cracks and/or corrosion detected.

D. To conduct the inspections required by this AD:

1. Remove the paint, using an approved chemical stripper; or
2. Ensure that each fastener head is clearly visible.

E. For the purposes of complying with this AD, the number of landings may be determined to equal the number of pressurization cycles where the cabin pressure differential was greater than 1.5 PSI.

F. The inspections required by this AD may be terminated for the affected lap joints on which the terminating action has been accomplished in accordance with Boeing Service Bulletin 747-53-2307, dated December 21, 1989.

G. Special flight permits may be issued in accordance with FAR 21.197 and 21.199 to operate airplanes to a base in order to comply with the requirements of this AD.

H. An alternate means of compliance or adjustment of the compliance time, which provides an acceptable level of safety, may be used when approved by the Manager, Seattle Aircraft Certification Office (ACO), FAA, Transport Airplane Directorate.

NOTE: The request should be submitted directly to the Manager, Seattle ACO, and a copy sent to the cognizant FAA Principal Inspector (PI). The PI will then forward comments or concurrence to the Seattle ACO.

All persons affected by this directive who have not already received the appropriate service documents from the manufacturer may obtain copies upon request to Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124. These documents may be examined at the FAA, Northwest Mountain Region, Transport Airplane Directorate, 17900 Pacific Highway South, Seattle, Washington, or Seattle Aircraft Certification Office, 9010 East Marginal Way South, Seattle, Washington.

This amendment (39-6653, AD 90-15-06) becomes effective on August 20, 1990.