

# Airworthiness Directive

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

Docket No. 89-NM-148-AD; Amendment 39-6581; AD **90-09-06**

Airworthiness Directives; BOEING Model 747 Series Airplanes  
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### ▼ Preamble Information

AGENCY: Federal Aviation Administration, DOT

DATES: Effective May 29, 1990.

### ▼ Regulatory Information

**90-09-06 BOEING:** Amendment 39-6581. Docket No. 89-NM-148-AD.  
Applicability: Model 747 series airplanes, line number 001 and subsequent, certificated in any category.

Compliance: Required as indicated, unless previously accomplished.

To prevent inadvertent opening of lower lobe forward and aft cargo doors and the main deck side cargo door, if installed, accomplish the following, (paragraphs A. through D. apply to lower lobe cargo doors only):

A. Within the next 10 days after April 3, 1989 (the effective date of Amendment 39-6166, AD 89-05-54), install Boeing placards, P/N 27EBY115 for hook operation, and P/N 27EBY114 for latch operation, or equivalent, adjacent to the respective drive ports.

B. Except for airplanes that have been modified in accordance with Boeing service bulletins specified in paragraph D., below, or on which a production equivalent has been installed, within the next 10 days after April 3, 1989, accomplish the following:

1. Visually inspect for broken, bent, or otherwise damaged lock sectors

which could affect the integrity of the door locking mechanism, and repair or replace damaged sectors prior to further flight, in accordance with FAA-approved procedures. This inspection must be repeated at intervals not to exceed 30 days, and after the next door opening following each manual operation of the door.

2. Conduct the mechanical and electrical system tests specified in Boeing Service Bulletin 747-52A2206, Revision 3, Revision 4, or Revision 5, paragraphs III.A. and B. Airplanes which fail mechanical and/or electrical tests must be repaired prior to further flight, in accordance with FAA-approved procedures. Repeat these tests at intervals not to exceed 30 days and repeat the electrical test after restoration of electrical power following manual operation.

C. Within the next 14 days after April 3, 1989, change the operating procedures for the lower lobe cargo door to include the requirements specified below, and thereafter comply with those revised procedures. The procedures required by this paragraph must be accomplished by qualified and trained mechanics, and the training program must be approved by the FAA Principal Maintenance Inspector (PMI). Methods for documentation of compliance with the following procedures must be approved by the FAA PMI.

1. Prior to takeoff following each operation of the door, conduct a visual verification, through the external viewports, to ensure proper engagement of the latching cams to ensure the door is fully latched closed. This information must be relayed to and acknowledged by the flight crew.

2. When operating the door manually, the cranking torque shall not exceed 70 inch-pounds, and power tools shall not be used to operate latch and hook mechanisms in the manual mode.

D. Within the next 30 days after April 3, 1989, accomplish the following:

1. For those airplanes specified in Boeing Alert Service Bulletin 747-52A2206, Revision 3, dated August 27, 1987, Revision 4, dated April 14, 1988, or Revision 5, dated March 30, 1989: Modify the doors in accordance with paragraphs III.H. through III.O. of the applicable revision of the service bulletin.

2. For those airplanes specified in Boeing Alert Service Bulletin 747-52A2209, dated August 27, 1987, Revision 1, dated April 14, 1988, or Revision 2, dated March 30, 1989: Modify the doors in accordance with paragraphs III.E. through III.L. of the applicable revision of the service bulletin.

Accomplishment of these modifications constitutes terminating action for the repetitive requirements of paragraph B., above.

E. Within the next 18 months after the effective date of this Amendment, install a system which provides visual warning signals to alert flight crewmembers and ground crew personnel when forward and aft lower lobe cargo doors, and side main deck cargo door, if installed, are not fully closed, the latch cams are not rotated to the closed position, or the locks are not in the locked position. The warning system must monitor the door closed, latched, and locked condition directly. An amber visual warning signal for flight crewmembers must be located on a forward cockpit panel. Incorrect indication, either open or closed, must be improbable. The modification must be approved by the Manager, Seattle Aircraft Certification Office, FAA, Northwest Mountain Region. Accomplishment of this modification constitutes terminating action for the special operating procedure required by paragraph C.1., above.

F. 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, FAA, Northwest Mountain Region.

NOTE: The request should be forwarded through an FAA Principal Maintenance Inspector (PMI), who will either concur or comment and then send it to the Manager, Seattle Aircraft Certification Office.

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.

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 supersedes Amendment 39-6166, AD 89-05-54.  
This amendment (39-6581, AD **90-09-06**) becomes effective on May 29, 1990.