

EMERGENCY AIRWORTHINESS DIRECTIVE



Aircraft Certification Service
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U.S. Department
of Transportation
**Federal Aviation
Administration**

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ISSUE DATE: March 13, 2007

AD 2007-06-51; Docket No. FAA-2007-27558; Directorate Identifier 2007-NM-044-AD

Emergency airworthiness directive (AD) 2007-06-51 is sent to all owners and operators of Boeing Model 737-800 series airplanes.

Background

We have received a report of seven flight spoiler actuator jams on Model 737-800 Short Field Performance (SFP) airplanes. Two reports involved in-service airplanes that were discovered during a routine maintenance walk-around and were believed to have occurred on the previous landing during auto speedbrake extension. Five other reports occurred during spoiler system testing at Boeing prior to delivery. An additional two reports of spoiler actuator input lever binding were identified during bench testing after Boeing began to investigate this issue.

The two in-service failures of flight spoilers resulted in the spoilers not retracting after the speedbrake handle was moved to the DOWN position after landing, on a Boeing Model 737-800 airplane equipped with an SFP package. In both of these cases, the spoiler was discovered in the full-extended position during a routine maintenance walk-around. The spoiler remained in the full-extended position after cycling of the speedbrake handle.

Further investigation revealed that the spoiler actuator failure is most likely to occur when the speedbrakes are deployed on the ground (automatically or manually) for either a rejected takeoff or normal landing. The takeoff configuration warning will not sound if any flight spoiler remains extended with the speedbrake handle in the DOWN position. The cause of the failure has been identified as interference within the actuator main control valve.

This condition, if not corrected, could result in a spoiler actuator hardover, which could cause the spoiler surface to jam in the fully extended position. Two or more hardover failures of the spoiler surfaces in the up direction on the same wing, if undetected prior to takeoff, can cause significant roll and consequent loss of control of the airplane.

Explanation of Relevant Service Information

We have reviewed Boeing 737 Flight Crew Operations Manual Bulletin No. TBC-67, dated March 5, 2007. The bulletin describes procedures for inspecting spoilers to determine spoiler position after landing and after any rejected takeoff maneuvers. For airplanes on which any spoiler is found in the up position with the speedbrake handle in the down position, the bulletin specifies to contact maintenance.

FAA's Determination and Requirements of this AD

We have evaluated all pertinent information and identified an unsafe condition that is likely to exist or develop on other airplanes of this same type design. Therefore, we are issuing this AD to detect and correct any spoiler panel that is found in the up position with the speedbrake handle in the down position. This AD requires accomplishing the actions specified in the service information described previously, except as discussed under "Differences Between this AD and the Service Information." This AD also requires you to report to the manufacturer any spoiler panel that is found in the up position with the speedbrake handle in the down position.

Differences Between this AD and the Service Information

In addition to the inspection specified in the service information, this AD also requires that, after any maintenance action that operates the spoiler system, the "Speedbrake Control System Operational Test" specified in Chapter 27-62-00 of the 737/600/700/800/900 aircraft maintenance manual (AMM) be accomplished. This AD also specifies that the Master Minimum Equipment List Item 27-7, "Auto Speed Brake System," is no longer applicable to Model 737-800 series airplanes equipped with an SFP package. This AD also provides an optional terminating action of installing flight spoiler actuator, P/N P655A0001-01 or higher dash number, in all eight flight spoiler positions.

Although the service information specifies that operators may contact maintenance for disposition if any spoiler remains in the up position with the speedbrake handle in the down position, this AD requires operators to replace the flight spoiler actuator with a flight spoiler actuator, having part number (P/N) P655A0001-01 or higher dash number, using a method approved by the FAA.

Operators should note that the service information specifies doing an inspection. However, this AD requires doing a "visual check," which may be done by qualified ground personnel or flightcrew. We have determined that these visual checks may be properly performed by flightcrew because the checks do not require tools, precision measuring equipment, training, or pilot logbook endorsements, or the use of or reference to technical data that are not contained in the body of the AD.

Interim Action

We consider this AD interim action. We are currently considering requiring the replacement of the flight spoiler actuator, which will constitute terminating action for the visual checks and operational tests required by this AD action.

Examining the Docket

You may examine the contents of this AD docket on the Internet at <http://dms.dot.gov> (on the next business day after we have issued the AD), or in person at the Docket Management Facility, U.S. Department of Transportation, 400 Seventh Street SW., Room PL-401, on the plaza level of the Nassif Building, Washington, DC. This docket number is FAA-2007-27558; the directorate identifier for this docket is 2007-NM-044-AD.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Determination of Rule's Effective Date

This emergency AD is issued under 49 U.S.C. Section 44701 according to the authority delegated to me by the Administrator, and is effective immediately upon receipt.

2007-06-51 Boeing: Docket No. FAA-2007-27558; Directorate Docket No. 2007-NM-044-AD.

Effective Date

(a) Emergency airworthiness directive (AD) 2007-06-51, issued on March 13, 2007, is effective immediately upon receipt.

Affected ADs

(b) None.

Applicability

(c) This AD applies to the Boeing Model 737-800 series airplanes, certificated in any category, serial numbers 32685, 34277 through 34281 inclusive, 34474, 34475, 34654 through 34656 inclusive, 34690, 34948, 34949, 35091 through 35093 inclusive, 35103, 35134, 35176 through 35183 inclusive, 35330, 35331, 35558, 35559, and 36323 through 36328 inclusive.

Unsafe Condition

(d) This AD results from a report of seven flight spoiler actuator jams on Model 737-800 Short Field Performance (SFP) airplanes. The cause of the failure has been identified as interference within the actuator main control valve. We are issuing this AD to detect and correct any spoiler panel that is found in the up position with the speedbrake handle in the down position, which could result in a spoiler actuator hardover, and could cause the spoiler surface to jam in the fully extended position. Two or more hardover failures of the spoiler surfaces in the up direction on the same wing, if undetected prior to takeoff, can cause significant roll and consequent loss of control of the airplane.

Compliance

(e) You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

Visual Check and Corrective Action

(f) Within 24 clock hours after receipt of this AD, do the actions specified in paragraph (f)(1), (f)(2), and (f)(3) of this AD, as applicable. The visual checks required by paragraphs (f)(1) and (f)(2) of this AD may be performed by qualified personnel or flightcrew, and must be entered into the aircraft records showing compliance with this AD in accordance with 14 CFR 43.9(b) and 14 CFR 121.363 and 121.380.

(1) After every landing, visually check the spoilers to determine spoiler position, in accordance with Boeing 737 Flight Crew Operations Manual Bulletin No. TBC-67, dated March 5, 2007.

(i) If all spoilers are determined to be properly stowed, no further action is required by this paragraph.

(ii) If any spoiler is found to be improperly stowed (in the up position with the speedbrake handle in the down position), before further flight, replace the flight spoiler actuator with a flight spoiler actuator, having part number (P/N) P655A0001-01 or higher dash number, in accordance with a method approved by the Manager, Seattle Aircraft Certification Office (ACO), FAA. The "Flight Spoiler Actuator Removal" task and the "Flight Spoiler Actuator Installation" task in Chapter 27-61-51 of the 737/600/700/800/900 Aircraft Maintenance Manual (AMM) are approved methods for the replacement (removal and installation) of the flight spoiler actuator.

(2) After any rejected takeoff maneuver, do the visual check specified in paragraph (f)(1) of this AD.

(3) After any maintenance action that operates the spoiler system, do an operational test of the speedbrake control system in accordance with a method approved by the Manager, Seattle ACO, FAA. The "Speedbrake Control System Operational Test" specified in Chapter 27-62-00 of the 737/600/700/800/900 AMM is one approved method for the operational test of the speedbrake control system. If any spoiler panel is found to be fully extended with the speedbrake handle down, or if any spoiler panel is found fully retracted when the speedbrake handle is up, before further flight, replace the flight spoiler actuator in accordance with the actions specified in paragraph (f)(1)(ii) of this AD.

Master Minimum Equipment List Item

(g) As of the receipt of this AD, the Master Minimum Equipment List Item 27-7, "Auto Speed Brake System," is no longer applicable to Model 737-800 series airplanes equipped with an SFP package.

Optional Terminating Action

(h) Installation of flight spoiler actuator, P/N P655A0001-01 or higher dash number, in all eight flight spoiler positions ends the requirements of paragraph (f) of this AD.

Reporting

(i) If any spoiler is found to be improperly stowed during any visual check required by this AD, at the applicable time specified in paragraphs (i)(1) and (i)(2) of this AD, report the following information electronically to Boeing using the established Boeing Communications System (BCS): Airplane serial number, jam position, spoiler panel number or wing position of the spoiler that jammed, date of visual check, and flight hours accumulated on the airplane.

(1) For visual checks done before the receipt of this AD: Within 7 days after receipt of this AD.

(2) For visual checks done after the receipt of this AD: Within 7 days after doing the inspection.

Parts Installation

(j) As of the receipt of this AD, no person may install a flight spoiler actuator, having P/N P655A0001-00, on any airplane.

Special Flight Permit

(k) Special flight permits, as described in Section 21.197 and Section 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199), are NOT allowed.

Alternative Methods of Compliance (AMOCs)

(l)(1) The Manager, Seattle Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested in accordance with the procedures found in 14 CFR 39.19.

(2) To request a different method of compliance or a different compliance time for this AD, follow the procedures in 14 CFR 39.19. Before using any approved AMOC on any airplane to which the AMOC applies, notify your appropriate principal inspector (PI) in the FAA Flight Standards District Office (FSDO), or lacking a PI, your local FSDO.

Contact Information

(m) For technical information about this AD, contact: Kelly McGuckin, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle ACO, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 917-6490; fax (425) 917-6590. For service information identified in this AD, contact Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207.

Issued in Renton, Washington, on March 13, 2007.

Original signed by:

Ali Bahrami,
Manager,
Transport Airplane Directorate,
Aircraft Certification Service.

SUPERSEDED