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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2005-20117; Directorate Identifier 2004-NM-248-AD; Amendment 39-13949; AD 2005-02-04]

RIN 2120-AA64

Airworthiness Directives; McDonnell Douglas Model MD-10-10F, MD-10-30F, MD-11F, DC-10-10F, and DC-10-30F Airplanes

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final rule; request for comments.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for the McDonnell Douglas airplanes listed above. This AD requires identifying the part number of the cargo compartment smoke detectors and, if necessary, revising the Limitations section of the airplane flight manual to include procedures for testing the smoke detection system after the last engine is started. This AD also provides for the optional replacement of the subject smoke detectors with modified smoke detectors, which would terminate the operational limitation. This AD is prompted by a report indicating that the cargo smoke detectors can "lock up" during electrical power transfer from the auxiliary power unit to the engines. We are issuing this AD to identify and provide corrective action for a potentially inoperative smoke detector in the cargo compartment and ensure that the flightcrew is alerted in the event of a cargo compartment fire.

DATES: Effective February 8, 2005.

We must receive comments on this AD by March 25, 2005.

ADDRESSES: Use one of the following addresses to submit comments on this AD.

- DOT Docket Web Site: Go to *http://dms.dot.gov* and follow the instructions for sending your comments electronically.
- Government-wide Rulemaking Web Site: Go to *http://www.regulations.gov* and follow the instructions for sending your comments electronically.
- Mail: Docket Management Facility; U.S. Department of Transportation, 400 Seventh Street SW., Nassif Building, room PL-401, Washington, DC 20590.
- Fax: (202) 493-2251.

- Hand Delivery: Room PL-401 on the plaza level of the Nassif Building, 400 Seventh Street SW., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this AD, contact Boeing Commercial Airplanes, Long Beach Division, 3855 Lakewood Boulevard, Long Beach, California 90846, Attention: Data and Service Management, Dept. C1-L5A (D800-0024). You can examine this information at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call (202) 741-6030, or go to *http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html*.

You can examine the contents of this AD docket on the Internet at *http://dms.dot.gov*, 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-2005-20117; the directorate identifier for this docket is 2004-NM-248-AD.

Examining the Dockets

You can examine the AD docket on the Internet at *http://dms.dot.gov*, or in person at the Docket Management Facility office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The Docket Management Facility office (telephone (800) 647-5227) is located on the plaza level of the Nassif Building at the DOT street address stated in the ADDRESSES section.

FOR FURTHER INFORMATION CONTACT: Chip Adam, Flight Test Pilot, Flight Test Branch, ANM-160L, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Boulevard, Lakewood, California 90712-4137; telephone (562) 627-5369; fax (562) 627-5210.

SUPPLEMENTARY INFORMATION: We have received a report indicating an unsafe condition may exist on all McDonnell Douglas Model MD-10-10F, MD-10-30F, MD-11F, DC-10-10F, and DC-10-30F airplanes. Testing indicated a design discrepancy involving the operation of cargo smoke detectors manufactured by Meggitt Safety Systems Inc. (formerly Whittaker). During a test on Model MD-11F airplanes, 31 of 33 smoke detectors "locked up"–with no indication to the flightcrew–when the power was interrupted during power transfer from the auxiliary power unit (APU) to the engines. Investigation revealed that the smoke detector circuit does not meet power interrupt requirements during a power transfer between ground power, APU power, or main engine power sources on the airplane. The flightcrew is unaware of the inoperative smoke detector unless they test the smoke detection system. The smoke detector remains inoperative until power to the unit is cycled off and on. Under these conditions, the flightcrew would not be alerted in the event of a cargo compartment fire.

This lock-up condition may be produced by electrical power transfer on McDonnell Douglas Model MD-10-10F, MD-10-30F, MD-11F, DC-10-10F, and DC-10-30F airplanes. Therefore, all these airplanes may be subject to the identified unsafe condition.

Relevant Service Information

The Boeing interim operating procedures (IOPs) listed in the following table advise the flightcrew of procedures for testing the smoke detection system after the last engine is started, if any Meggitt Model 602 smoke detector, part number (P/N) 8930, is installed. We have approved these procedures.

SERVICE INFORMATION

IOP—	Dated—	To the—
2–212.1	November 9, 2004	Boeing MD–11 Flight Crew Operations Manual.
2–34.1	November 9, 2004	Boeing MD–10 Flight Crew Operations Manual.
2–70	November 24, 2004	Boeing DC–10 Flight Crew Operating Manual.

We have reviewed Meggitt Safety Systems Service Information Letter (SIL) 8930-26-01, dated November 8, 2004. The SIL provides procedures for replacing the P/N 8930 smoke detectors with modified smoke detectors.

FAA's Determination and Requirements of This AD

The unsafe condition described previously is likely to exist or develop on other airplanes of the same type design. Therefore, we are issuing this AD to identify and provide corrective action for a potentially inoperative smoke detector in the cargo compartment and ensure that the flightcrew is alerted in the event of a cargo compartment fire. This AD requires determining the part number(s) of the cargo smoke detectors and, if necessary, revising the Limitations section of the applicable airplane flight manual (AFM) to include the information in the IOPs described above. This AD also provides for the optional replacement of P/N 8930 smoke detectors with modified smoke detectors, which would terminate the AFM operational limitation.

Interim Action

We consider this AD interim action because we may later require installation of the modified smoke detectors, which would terminate the operational limitation required by this AD. However, the planned compliance time for this action would allow enough time to provide notice and opportunity for prior public comment on the merits of the modification.

In addition, we are investigating potential problems with the subject smoke detectors on other transport category airplanes. We might consider further rulemaking to require modified smoke detectors on airplanes in addition to those affected by this AD.

FAA's Determination of the Effective Date

An unsafe condition exists that requires the immediate adoption of this AD; therefore, providing notice and opportunity for public comment before the AD is issued is impracticable, and good cause exists to make this AD effective in less than 30 days.

Comments Invited

This AD is a final rule that involves requirements that affect flight safety and was not preceded by notice and an opportunity for public comment; however, we invite you to submit any relevant written data, views, or arguments regarding this AD. Send your comments to an address listed under ADDRESSES. Include "Docket No. FAA-2005-20117; Directorate Identifier 2004-NM-248-AD" at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of the AD. We will consider all comments received by the closing date and may amend the AD in light of those comments.

We will post all comments we receive, without change, to *http://dms.dot.gov*, including any personal information you provide. Comments will be available in the AD docket shortly after the DMS receives them. We will also post a report summarizing each substantive verbal contact with FAA personnel concerning this AD. Using the search function of our docket Web site, anyone can

find and read the comments in any of our dockets, including the name of the individual who sent the comment (or signed the comment on behalf of an association, business, labor union, etc.). You can review the DOT's complete Privacy Act Statement in the Federal Register published on April 11, 2000 (65 FR 19477-78), or you can visit *http://dms.dot.gov*.

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.

Regulatory Findings

We have determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect 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.

For the reasons discussed above, I certify that the 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. 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.

We prepared a regulatory evaluation of the estimated costs to comply with this AD. See the ADDRESSES section for a location to examine the regulatory evaluation.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Safety.

Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 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. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

AIRWORTHINESS DIRECTIVE

Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
**Federal Aviation
Administration**

We post ADs on the internet at "www.faa.gov"

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2005-02-04 McDonnell Douglas: Amendment 39-13949. Docket No. FAA-2005-20117; Directorate Identifier 2004-NM-248-AD.

Effective Date

(a) This AD becomes effective February 8, 2005.

Affected ADs

(b) None.

Applicability

(c) This AD applies to all McDonnell Douglas Model MD-10-10F, MD-10-30F, MD-11F, DC-10-10F, and DC-10-30F airplanes; certificated in any category.

Unsafe Condition

(d) This AD is prompted by a report indicating that cargo smoke detectors can "lock up" during electrical power transfer from the auxiliary power unit (APU) to the engines. We are issuing this AD to identify and provide corrective action for a potentially inoperative smoke detector in the cargo compartment and ensure that the flightcrew is alerted in the event of a cargo compartment fire.

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.

Part Number Identification

(f) Within 30 days after the effective date of this AD, determine the make, model, and part number (P/N) of the smoke detectors in the cargo compartment.

(g) If no smoke detector identified in paragraph (f) of this AD is Meggitt Model 602, P/N 8930-( ): No further action is required by this AD.

Revision of Airplane Flight Manual (AFM)

(h) If any smoke detector identified in paragraph (f) of this AD is Meggitt Model 602, P/N 8930-( ): Before further flight, revise the Limitations section of the AFM to include the

information in paragraph (h)(1), (h)(2), or (h)(3), as applicable, of this AD. This AFM revision may be accomplished by inserting a copy of this AD into the AFM. This AFM revision advises the flightcrew of procedures for testing the smoke detection system after the last engine is started. Operate the airplane according to these limitations and procedures until the actions specified in paragraph (i) of this AD have been done.

(1) For Model MD-10-10F and MD-10-30F airplanes: Include the following information (also found in Boeing Interim Operating Procedure (IOP) 2-34.1, dated November 9, 2004, to the Boeing MD-10 Flight Crew Operations Manual):

"Add procedural step after HYD Control Panel:

Manual Cargo Fire Test..... CHECKED

Push and hold CARGO FIRE MANUAL TEST switch until `CARGO FIRE TEST' alert is displayed on EAD.

NOTES: During the test, on some Series 30 aircraft, the `CRG FLO FWD DISAG' alert may be displayed.

If `CRG FIRE TST FAIL' alert is displayed, select AIR synoptic. Failed heat or smoke detectors are displayed as amber rectangles with an "F" inside. Passed heat detectors are displayed as amber circles and passed smoke detectors are displayed as amber triangles. If there is one or more failed smoke detector(s), pull circuit breakers D-12 (CARGO SMK DET & LTS) and D-13 (CARGO OVHT) on left overhead circuit breaker panel. Reset after 2 seconds.

Re-accomplish `Manual Cargo Fire Test' and confirm `CRG FIRE TST FAIL' alert is not displayed. If `CRG FIRE TST FAIL' alert is again displayed, contact maintenance."

(2) For Model MD-11F airplanes: Insert the following information (also found in Boeing IOP 2-212.1, dated November 9, 2004, to the Boeing MD-11 Flight Crew Operations Manual):

"Add procedural step after HYD Control Panel:

Manual Cargo Fire Test..... CHECKED

Push and hold CARGO FIRE MANUAL TEST switch until `CARGO FIRE TEST' alert is displayed on EAD.

NOTES: During the test, the `CRG FLO FWD DISAG' and `CRG FLO AFT DISAG' alerts may be displayed.

If `CRG FIRE TST FAIL' alert is displayed, select AIR synoptic. Failed heat or smoke detectors are displayed as amber rectangles with an `F' inside. Passed heat detectors are displayed as amber circles and passed smoke detectors are displayed as amber triangles. If there is one or more failed smoke detector(s), pull circuit breakers D-12 (CARGO SMK DET & LTS) and D-13 (CARGO OVHT) on left overhead circuit breaker panel. Reset after 2 seconds.

Re-accomplish `Manual Cargo Fire Test' and confirm `CRG FIRE TST FAIL' alert is not displayed. If `CRG FIRE TST FAIL' alert is again displayed, contact maintenance."

(3) For Model DC-10-10F and DC-10-30F airplanes: Insert the following information (also found in Boeing IOP 2-70, dated November 24, 2004, to the Boeing DC-10 Flight Crew Operating Manual):

"Annunciator/Door Lights..... NORMAL/OFF

C/M-2 and C/M-3 observe annunciator lights.

NOTE

If a light is on, check system configuration and take appropriate action.

LWR CARGO FIRE/CREW REST TEST/ARM
AREA SMOKE Detectors.

Move FIRE/SMK DET switch to TEST and hold. Observe the REST AREA SMK DET, FWD SMK DET, CREW REST AREA SMOKE, FWD CARGO FIRE, AFT SMK DET, HEAT DET and AFT CARGO FIRE lights are on. At the pilot's overhead annunciator panel, observe CARGO FIRE and CREW REST AREA SMOKE lights are on. At the glareshield, observe both MASTER WARN lights are on.

Release switch to ARM position.

If one or more lights failed to come on during the test, pull circuit breakers D-3 (CARGO CREW REST SMOKE DETS & INDS) and D-4 (CARGO OVERHEAT). Reset after two seconds.

Re-accomplish test.

If test is not successful, contact maintenance."

Optional Terminating Action

(i) Replacement of Meggitt Model 602 smoke detectors P/N 8930-( ) with modified smoke detectors in accordance with Meggitt Safety Systems Service Information Letter 8930-26-01, dated November 8, 2004, terminates the operational limitation required by paragraph (h) of this AD. After all P/N 8930-( ) smoke detectors have been replaced on the airplane, the operational limitation specified in paragraph (h) of this AD may be removed from the AFM.

Alternative Methods of Compliance (AMOCs)

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

Material Incorporated by Reference

(k) None.

Issued in Renton, Washington, on January 12, 2005.
Ali Bahrami,
Manager, Transport Airplane Directorate, Aircraft Certification Service.
[FR Doc. 05-1206 Filed 1-21-05; 8:45 am]
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