

Airworthiness Directive

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

Docket No. 95-NM-127-AD; Amendment 39-9614.; **AD 92-10-13 R1**

Airworthiness Directives; MCDONNELL DOUGLAS DC-9-80 Series Airplanes and Model MD-88 Airplanes

PDF Copy (If Available):

▼ Preamble Information

AGENCY: Federal Aviation Administration, DOT

DATES: Effective June 13, 1996.

▼ Regulatory Information

92-10-13 R1 MCDONNELL DOUGLAS: Amendment 39-9614. Docket 95-NM-127-AD. Revises AD 92-10-13, Amendment 39-8247.

Applicability: Model DC-9-80 series airplanes and Model MD-88 airplanes equipped with digital flight guidance computers (DFGC) having part numbers prior to 4034241-972; 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 request approval for an alternative method of compliance in accordance with paragraph (d) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Required as indicated, unless accomplished previously.

To prevent automatic thrust lever advance on a surging engine during takeoff, which could cause engine failure, accomplish the following:

(a) Within 30 days after May 20, 1992 (the effective date of AD 92-10-13, amendment 39-8247), 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.

"LIMITATIONS SECTION

Autothrottles must be disconnected if engine surge (stall) is detected during takeoff."

(b) Within 30 days after May 20, 1992 (the effective date of AD 92-10-13, amendment 39-8247), revise the Procedures Section of the FAA-approved AFM to include the following statement. This may be accomplished by inserting a copy of this AD in the AFM.

"PROCEDURES SECTION

CAUTION

During takeoff, the Digital Flight Guidance Computer (DFGC) engine failure logic is armed if (1) the flight director pitch axis is in takeoff mode, (2) the aircraft is above 400 feet radio altitude, and (3) both engine pressure ratios (EPR's) are below the go-around EPR limit. If the DFGC detects an EPR drop greater than or equal to 0.25 EPR and 7% N1 from the same engine, as compared to the other engine, the engine failure logic is satisfied and the DFGC will change the Thrust Rating Panel (or indicator) thrust limit to Go-Around (GA). This will cause the autothrottle system to unclamp and enter normal EPR limit (EPR LIM) mode where the throttles will maintain the higher engine EPR at the selected go-around thrust rating EPR LIM. Such an EPR and N1 drop may also result from an engine surge (stall). Advancing thrust levers on a surging engine will hinder surge recovery and may result in eventual engine failure.

If an engine surge (stall) is detected during takeoff:

(1) Disconnect autothrottles.

- (2) Reduce thrust on affected engine (idle if necessary).
- (3) Shut down the affected engine if surging and popping continues.
- (4) If affected engine surging or popping stops, accomplish the following:
 - A. Place ignition switch to GRD START & CONTIN.
 - B. Place ENG anti-ice switches to ON.
 - C. Place PNEU X-FEED VALVE lever OPEN on affected side.
 - D. Place AIR FOIL anti-ice switches ON.
 - E. Advance affected throttle slowly.
- (5) If engine surging or popping returns, turn the ENG anti-ice switch OFF.
- (6) After normal operation has been established, the autothrottles may be re-engaged.

NOTE: A NO MODE light may be annunciated due to abnormal bleed configuration."

(c) Replacement of both DFGC's having a part number prior to 4034241-972, with DFGC's having part number 4034241-972, in accordance with McDonnell Douglas Service Bulletin MD80-22-111, dated May 23, 1995, constitutes terminating action for the requirements of this AD. Once the replacements are accomplished, the AFM revisions required by paragraphs (a) and (b) of this AD may be removed.

NOTE 2: McDonnell Douglas Service Bulletin MD80-22-111, dated May 23, 1995, references Honeywell Service Bulletin 4034241-22-44, dated May 22, 1995, as an additional source of service information.

NOTE 3: Paragraph 1.B of McDonnell Douglas Service Bulletin MD80-22-111, dated May 23, 1995, specifies certain concurrent actions that affect airplanes equipped with DFGC's having part numbers prior to 4034241-971.

(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, Los Angeles 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, Los Angeles ACO.

NOTE 4: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Los Angeles ACO.

(e) Special flight permits may be issued in accordance with sections 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.

(f) The replacement shall be done in accordance with McDonnell Douglas Service Bulletin MD80-22-111, dated May 23, 1995. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from McDonnell Douglas Corporation, 3855 Lakewood Boulevard, Long Beach, California 90846, Attention: Technical Publications Business Administration, Department C1-L51 (2-60). Copies may be inspected at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the FAA, Los Angeles Aircraft Certification Office, Transport Airplane Directorate, 3960 Paramount Boulevard, Lakewood, California; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

(g) This amendment becomes effective on June 13, 1996.

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