14 CFR Part 39

[Docket No. 94-NM-114-AD]

Airworthiness Directives; McDonnell Douglas Model DC-10 Series Airplanes and Model KC-10A (Military) Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: This document proposes the adoption of a new airworthiness directive (AD) that is applicable to certain McDonnell Douglas Model DC-10 series airplanes and Model KC-10A (military) airplanes. This proposal would require various modifications of the flight controls, hydraulic power systems, and landing gear. This proposal is prompted by a recommendation by the Systems Review Task Force (SRTF) for accomplishment of certain modifications that will enhance the controllability of these airplanes in the unlikely event of catastrophic damage to all hydraulics systems. The actions specified by the proposed AD are intended to ensure airplane survivability in the event of damage to fully powered flight control systems.

DATES: Comments must be received by March 1, 1995.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), Transport Airplane Directorate, ANM–103, Attention: Rules Docket No. 94–NM–114–AD, 1601 Lind Avenue, SW., Renton, Washington 98055–4056. Comments may be inspected at this location between 9:00 a.m. and 3:00 p.m., Monday through Friday, except Federal holidays.

The service information referenced in the proposed rule may be obtained from McDonnell Douglas Corporation, P.O. Box 1771, Long Beach, California 90801–1771, Attention: Business Unit Manager, Technical Administrative Support, Dept. L51, Mail Code 2–98. This information may be examined at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the FAA, Transport Airplane Directorate, Los Angeles Aircraft Certification Office, 3960 Paramount Boulevard, Lakewood, California.

FOR FURTHER INFORMATION CONTACT: Mauricio J. Kuttler, Aerospace Engineer, Systems and Equipment Branch, ANM– 131L, FAA, Transport Airplane Directorate, Los Angeles Aircraft Certification Office, 3960 Paramount Boulevard, Lakewood, California 90712; telephone (310) 627–5355; fax (310) 627–5210.

SUPPLEMENTARY INFORMATION:

Comments Invited

Interested persons are invited to participate in the making of the proposed rule by submitting such written data, views, or arguments as they may desire. Communications shall identify the Rules Docket number and be submitted in triplicate to the address specified above. All communications received on or before the closing date for comments, specified above, will be considered before taking action on the proposed rule. The proposals contained in this notice may be changed in light of the comments received.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the proposed rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report summarizing each FAA-public contact concerned with the substance of this proposal will be filed in the Rules Docket. –

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 94–NM–114–AD." The postcard will be date stamped and returned to the commenter.

Availability of NPRMs-

Any person may obtain a copy of this NPRM by submitting a request to the FAA, Transport Airplane Directorate, ANM-103, Attention: Rules Docket No. 94-NM-114-AD, 1601 Lind Avenue, SW., Renton, Washington 98055-4056.

Discussion-

In July 1989, a McDonnell Douglas Model DC–10–30 series airplane was involved in an accident in Sioux City, Iowa, resulting in the deaths of 110 passengers and one crewmember. The National Transportation Safety Board (NTSB) identified the catastrophic disintegration of the stage 1 fan disk of one of the engines as a probable cause of the accident. The resulting debris damaged the hydraulic systems that power the flight controls, resulting in the loss of virtually all control capability.—

Following the accident, the Administrator of the Federal Aviation Administration convened a Systems Review Task Force (SRTF) to investigate means for enhancing airplane survivability following damage to fully powered flight control systems. The SRTF formed working groups to perform these investigations for specific airplane models to determine what actions could be effective in protecting other transport category airplanes with powered flight control systems from similar engine or systems failures.—

The SRTF working group assigned to review Model DC–10 series airplanes completed its review of the Model DC–10 design, including existing service bulletins, and issued a report recommending accomplishment of certain modifications described in 12 Model DC–10 service bulletins. A copy of the report is contained in the Rules Docket for this AD action.

Explanation of Relevant Service Documents-

The FAA has reviewed and approved the 12 McDonnell Douglas DC–10 Service Bulletins recommended for accomplishment by the SRTF working group. Accomplishment of the modifications specified in these service bulletins will enhance the controllability of the airplane in the unlikely event of catastrophic damage to all three hydraulic systems in the tail area of the airplane.

Seven of the 12 service bulletins discussed previously describe procedures for various modifications of the flight controls:–

1. McDonnell Douglas DC-10 Service Bulletin 27–71, Revision 1, dated February 14, 1973, was issued in response to reports of failures of the piping of the hydraulic system of the horizontal stabilizer on Model DC-10 series airplanes that had accumulated as few as 70 flight hours. The failures were attributed to rapid release of the trim control handles of the stabilizer, which resulted in pressure surges that were abnormally high in the hydraulic system of the stabilizer. Continued high pressure surges and externally induced vibrations could result in fatigue failure of the hydraulic piping. These conditions, if not corrected, could result in the loss of fluid, which could render the affected system inoperative.

The service bulletin describes procedures for installation of surge damper assemblies and new piping assemblies in hydraulic systems 1 and 3 of the horizontal stabilizer. Installation of the dampers and piping will ensure that high pressure surges are absorbed and will prevent pipe failures.—

2. McDonnell Douglas DC-10 Service Bulletin 27-120, dated February 10, 1975, describes procedures for modification and reidentification of the